**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

RICHARD H. STERN

**APPLICATION MADE SPECIAL**

Serial No.: 11/166,991

Examiner: HARRIS, CHANDA L.

Filed: 27 June 2005

Art Unit: 3715

For: MENTAL THERAPY METHOD FOR CATHARSIS OF NEGATIVE FEELINGS

# AMENDMENT

Paper No. 6

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the first Office action mailed on 6 January 2006 (Paper No. 20051230), entry of the following amendments and remarks, and re-examination and reconsideration of the application, are respectfully requested. It is noted that this application has been **made special** by an order dated November 18, 2005.

Folio: P57491
Date: 1/26/06
I.D.: REB/RHS/kf

**IN THE SPECIFICATION**

Entry of the following amendments to the specification is respectfully requested. Applicant further requests entry of the substitute specification attached herewith. The substitute specification incorporates the foregoing amendments, and the paragraphs contained in the specification are renumbered. It is submitted that no new matter is included in the substitute specification.

1. Please amend paragraphs [0004]-[0005] as follows:

**[0004]** Negative cathexis causes stress and is harmful to the person having or subject to it. Stress can lead to medical problems such as ulcers, acute gastritis and diarrhea. Onsets of erythrocytosis, inflammatory bowel disease, heart attacks and ischemia are influenced by stress. In fact, there is clinical evidence that psychic or emotional stress and anxiety are associated with precipitation of overt ischemic heart diseases and sudden death. See E.D. Eaker, et al., "Anger and Hostility Predict the Development of Atrial Fibrillation in Men in the Framingham Offspring Study," *Circulation*, 2004:109(10):1267-1271 ~~(available online at http:// circ.ahajournals.org/ cgi/content/full/109/10/1267 and http:// circ.ahajournals.org/cgi/ reprint/109/10/1267)~~; J.E. Williams, et al., "The Association Between Trait Anger and Incident Stroke Risk: The Atherosclerosis Risk in Communities (ARIC) Study," *Stroke*, 2002: 33(1):13-20 ~~(available online at http:// stroke.ahajournals.org/cgi/reprint/33/1/13)~~; J.E. Williams, et al., "Anger proneness predicts coronary heart disease risk: prospective analysis from the atherosclerosis risk in communities (ARIC) study," *Circulation*, 2000:2034-2039 ~~(available online at http:// circ.ahajournals.org/cgi/content/ full/101/17/2034)~~; D.S. Krantz, et al., "Mental stress as a trigger of myocardial ischemia and infarction," *Cardiology Clinics* 1996:14:271-287 ~~(Abstract available online at http:// www.ncbi .nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids =8724559&dopt=Abstract)~~; M. A. Mittleman, "Triggering of Acute Myocardial Infarction Onset by Episodes of Anger," *Circulation*, 1995:92:1720-1725 ~~(available online at http:// circ .ahajournals.org/cgi/content/full/92/7/1720?ijkey=64b686e51a543f0fbe80110a52d0 cab9cb59ba36)~~. By the same token, elimination or lessening of the negative thoughts and feelings that cause such stress and their adverse physiological effects is a useful, concrete, and tangi-

ble result. See J. E. Muller, et al., "Mechanisms Precipitating Acute Cardiac Events," *Circulation*, 1997:96:3233-39 ("It has been reported that anger is the predominant behavioral affect in the majority of patients who experience life-threatening arrhythmias. ... [P]atients who are habitually angry can increase annual risk substantially and should be advised to seek appropriate counseling.") ~~(available online at http:// circ.ahajournals.org/cgi/content/full/96/9/3233#SEC10)~~.

**[0005]** It is known that victims of spousal abuse suffer stress induced by the abuse and feelings of fear, anger, helplessness, powerless, anxiety, loss of self esteem, and other negative feelings. See generally O. Barnett, et al., *Family Violence Across the Lifespan - An Introduction*, ch. 10, "Intimate Partner Violence: Abused Partners" ~~(available online at http:// www. sagepub.com/ Barnett%20Chapter%20%2010_5133.pdf)~~ (collecting references). As used hereinafter, the term "negative feelings" includes feelings of fear, anger, helplessness, powerless, anxiety, and loss of self esteem, among others.

2. Please amend paragraph [0009] as follows:

**[0009]** This invention provides a way for a user (a first person) to alleviate fear, anger, or other negative thoughts or feelings that the user has toward a specific second person, who is personally known to the user and with whom the user has previously [[has]] <u>had</u> adverse personal interactions, or to focus such anger or negative thoughts or feelings on the second person who is an object of the user's negative feelings. This is accomplished by having the user select and display an image of the second person, so that the image is visible to the user, and also select and display an image of an object that is potentially harmful to the second person. Then the user causes the displayed images to touch, become superimposed on, or located near one another. For example, an image of a knife is moved so that it appears that the knife stabs the image of the second person. It is then determined whether the fear, anger, or other negative thoughts or feelings of the user have been reduced. If not, the process is repeated. As a result, as in Voodoo and similar practices, the foregoing procedure transforms a state of mind of the user in a manner such that an at least partial catharsis or discharge of cathexis occurs, but without (as in Voodoo and similar practices) the user believing consciously that the user's simulated actions actually harm the second person in the manner acted out. A preferred embodiment utilizes computer means to carry

out this procedure, such as a PC or handheld portable programmed device.

3. Please amend paragraph [0013] as follows:

**[0013]** Computer screen display 12 is operatively coupled to a processing unit 14, which is preferably a personal computer (PC) belonging to the user, or if the user is to receive therapy under the direct supervision of a therapist the PC is that of the therapist and is located in her office. Processing unit 14 can also be a microprocessor or microcontroller, if a special-purpose device is to be used instead of a PC. Thus, in a further embodiment the invention is implemented in a handheld, special-purpose, programmed microprocessor device, similar to a Palm Pilot ™ personal digital assistant, so that a user may carry it around with her.

4. Please delete paragraph [0019] in its entirety, as follows:

~~**[0019]** Pursuant to 37 CFR §1.52(e)(2) and 37 CFR §1.77(b)(4), an electronic document bearing a file name of "Ax2Head.gif," containing 136 kilobytes, having a date of creation of May 2, 2005, at 11:10 a.m., prepared in compliance with 37 CFR §1.52(e), that is filed simultaneously as a constituent part of this application with two (2) duplicate compact-disc read-only-memories (i.e., CD-ROMs) labeled as "Copy 1" and "Copy 2," each containing a table formed by a sequence of images illustrating aspects of at least one embodiment in the practice of the present invention, with the contents of each disk formatted in Graphics Interchange Format ("gif") files with all text set forth in compliance with the American Standard Code for Information Interchange ("ASCII"), is hereby incorporated into this application by reference. Pursuant to 37 CFR §1.52(g)(4), the two compact disks are identical. This file is an animation that conveniently illustrates aspects of an embodiment of the invention.~~

5. Please amend paragraph [0026] as follows:

**[0026]** As already described, in a preferred embodiment the user effects motion by using a cursor 18 to drag an image across the screen. Cursor 18 on a PC screen display is ordinarily an arrow, but it need not be. It is considered preferable for purposes of this invention to use a cursor shaped like a hand, for example, as occurs in applications such as Adobe Acrobat ™ software. Even more advantageously, cursor 18 is displayed as an open hand until the user moves it over image 16 (which is, for example, an image of an ax) and clicks the mouse. The open hand cursor

image is then replaced by a closed hand image that appears, for example, to clasp the handle of the ax. The user then drags image 16 to image 10, with the cursor/hand appearing to grasp the ax.

6. Please amend paragraphs [0031] - [0032] as follows:

**[0031]** It is considered preferable in the case of some users to require each animation performance from the first through last frames of the animated graphics file to be initiated by a prespecified volitional user action, such as a mouseclick or keystroke carried out by means of user input device 20, instead of automatically endlessly looping an animated graphics file. Whether impersonal commission of simulated [[maybem]] mayhem (automatic initiation of the animation sequence) or requiring positive user involvement in actuating the simulated mayhem (i.e., by using a user actuated initiation means for each animation sequence) is more therapeutically efficacious may have to be determined empirically case by case. In some circumstances, the user's repeated act of pressing the return key or pressing a mouse button, thereby initiating a new animation sequence of a simulated stabbing or clubbing of the second person provides enhanced catharsis. The motor action by the user actualizes the user's feeling of personal causal involvement in the retribution event. Other users, perhaps more squeamish, may prefer to see the second person "get what he has coming" without need for their active intervention. It is advantageous, therefore, to include a design feature that permits operation in either of these modes at the user's option.

**[0032]** In a variation of these embodiments, use of an animated graphics file permits a simulation of blood to flow or drip from image as an apparent result of the hostile actions committed against it. A programming expedient that advantageously simulates blood flow is to superimpose image layers over the initial image of the second person, where the added image layers embody the blood flow. The inventor has placed, and made available on-line, on the Internet an illustrative animated gif using this technique – ~~www.~~docs.law.gwu.edu/facweb/claw/Ax2Head.gif. This gif shows an animation of Fig, 1 hereof, in which blood is shown flowing down the head of image 10, as an apparent result of the action of image 16 (an axe).

7. Please amend paragraphs [0034] - [0035] as follows:

**[0034]** Technology for implementing the foregoing expedients is well known to those skilled in the art of programming graphics, although at this time such technology does not appear to be

used for therapy. Thus, expedients similar to those described in the preceding paragraph can be implemented by means of Java ™ software applets. An example of such Java ™ programming, for purposes of entertainment or amusement, rather than for therapeutic alleviation of anger or anxiety with respect to a specifically known person such as a former spouse, is available on the Internet. See the Web page of Virtual Design Group, Inc. of Atlanta, GA., ~~at www. virtual-design.com/demos/voodoodoll/voodoo.asp?section=demo&subsection=voodoo.~~ For example, most of the routines needed to implement the graphics for this invention are standard library features in Sun Microsystems' Java ™ Software Development Kit 1.5. Alternatively, Flash ™ animation software could be used to create the visual animation.

**[0035]** While PC graphics have been described above, the same principle applies to other image creation or reproduction devices. These include, without limitation, projection on a wall or screen, Palm Pilot™ -like personal digital assistant devices, holographic projection, and other holographic devices.

8. Please delete paragraph [0036] in its entirety, as follows:

~~**[0036]** Pursuant to 37 CFR §1.52(e)(2) and 37 CFR §1.77(b)(4), an electronic document bearing a file name of "Ax2Head.gif," containing 136 kilobytes, having a date of creation of May 2, 2005, at 11:10 a.m., prepared in compliance with 37 CFR §1.52(e), that is filed simultaneously as a constituent part of this application with two (2) duplicate compact-disc read-only-memories (i.e., CD-ROMs) labeled as "Copy 1" and "Copy 2," each containing a table formed by a sequence of images illustrating aspects of at least one embodiment in the practice of the present invention, with the contents of each disc formatted in Graphics Interchange Format ("gif") files with all text set forth in compliance with the American Standard Code for Information Interchange ("ASCII"), is hereby incorporated into this application by reference. Pursuant to 37 CFR §1.52(g)(4), the two compact disks are identical. This file is an animation that conveniently illustrates aspects of an embodiment of the invention. (The same file is also available at, and can be downloaded from www.law.gwu.edu/facweb/claw/Ax2Head.gif.)~~

9. Please amend paragraph [0042] as follows:

**[0042]** When such an incantation is to be used, the computer program controlling the PC must

utilize and/or include hardware and software components for causing an audible recitation or rendition of the incantation that a vendor has provided for this purpose (as a sound file, such as midi, rm, wav, wma, or xmf), so that the recitation occurs during at least a part of the procedure. PCs typically include (or come equipped with) conventional software (e.g., RealPlayer ™ software, IrfanView ™ software) and hardware (sound cards and speakers) for playing music, which is advantageously put to this use. The foregoing incantation unit can either cause recitation of the incantation automatically [[on]] upon screen placement of object image 16, for example, or else upon a specified user action such as a keystroke or a mouse click on a button shown on the GUI, done at a moment selected by the user.

10. Please amend paragraphs [0045] - [0046] as follows:

**[0045]** A vendor commercially exploiting the invention sells a CD to Jane Doe or to her therapist (who can direct its use by Jane Doe in therapy). The CD is encoded with computer-readable code (a computer program and various data files) to permit the user thereof to carry out the following procedure on the user's conventional PC equipped with Windows 98 ™ software or higher. The user copies the CD to the hard disk of the PC.

**[0046]** A photographic image of John Doe, a jpeg obtained by use of a digital camera, is input. The program resizes the John Doe image to a predetermined size (very approximately, image height 25% to 40% of screen height) and prepares a John Doe thumbnail image. Both the resized John Doe image and the thumbnail image are stored in a subdirectory (folder), which is conveniently designated "Abusers." (Resizing gifs and jpegs to a desired size, while retaining the aspect ratio, is a commonly available function on most standard graphics programs, such as IrfanView. ™ Many thumbnail programs, such as ThumbsPlus ™, are also available.)

11. Please amend paragraph [0050] as follows:

**[0050]** Both images now become objects or "sprites" that are used by a computer program such as a Java ™ applet.

12. Please amend paragraph [0059] as amended by Preliminary Amendment filed on Oct. 4, 2005, as follows:

**[0059]** Jane Doe of Example 1 (or her therapist) provides to a vendor a photograph or jpeg

image of John Doe. (John Doe's image is image 10 of Fig. 1.) The vendor, using conventional techniques, prepares an animated gif.~~, an electronic copy of which has been included with this application. (It is also available at, and can be downloaded from formerly www.law.gwu.edu/facweb/claw/Ax2Head.gif, and currently http//docs.law.gwu.edu/facweb/claw/Ax2Head.gif.)~~

13. Please amend paragraph [0062] as follows:

**[0062]** The specific embodiments described above are based on a PC and computer screen display, but the invention is not so limited. For example, holographic cards and similar devices already exist in which an image viewed at one angle appears different when viewed at another angle. The bird logo on a VISA ™ credit card is an example. The District of Columbia driver's license uses a similar expedient for security purposes. It is considered uneconomical (i.e., too expensive) at this time to create for a single user a customized holographic card animation comparable to that of Example 6. With anticipated advances in holographic technology, however, it should in the future become possible to provide, at a commercially practicable cost, a generally credit card sized holographic device embodying a user-customized animation generally comparable in concept to Example 6. That would permit a therapist to provide a patient like Jane Doe with a portable holographic card that she could use inconspicuously at any time and place when feelings of anxiety occurred.

14. Please amend paragraph [0065] as follows:

**[0065]** Despite the disputes over how catharsis works, it is considered that in the context of this invention, the thought patterns of the user that constitute or are representative of anger, anxiety, fear, hostility, or other negative thoughts or feelings are transformed to user thought patterns that constitute or are representative of less anger, anxiety, fear, hostility, or other negative thoughts or feelings. Such thought patterns may be embodied electrically, biochemically, or otherwise in a manner not fully explainable in the present state of scientific knowledge. It is widely accepted that memories and other thought patterns are embodied in electric and chemical signals that circulate or are transmitted from place to place within the human brain. Indeed, a considerable body of information exists on how different forms of mental activity can be imaged on electronic brain scan displays, and how changes in such activity upon occurrence of certain stimuli or

mental activities can be viewed on such brain scan displays. See, e.g., M.S. George et al., "Advances in Brain Imaging: An Overview of What the Primary Psychiatrist Needs to Know. [[,]]" ~~available on line at http://www. musc.edu/ psychiatry/ fnrd/primer_overview.htm.~~ It is thus considered that the operation of the invention causes one set of such signals within the brain to be transformed into a different set of such signals, where the first set is representative of one physical state (characterized, for example, by fear or anger based on memories of prior experiences) and the second set is representative of a different physical state (characterized, for example, by a reduction in such fear or anger).

## IN THE CLAIMS

Please amend claim(s) 1, 13, and 16, as follows. Please cancel, without prejudice, claims 15 and 20, which are non-elected species subject to a restriction. Please add new claims 21 and 22, as follows:

1. (Currently amended) A method of providing mental therapy for reducing fear, anger, or negative thoughts or feelings caused by a prior adverse interpersonal interaction, said method comprising the steps of:

(1) causing to be visibly displayed to, or perceived by, a first person an image closely resembling a second person, said first person having, in respect to said second person, because of a prior adverse interpersonal interaction between said first person and said second person, an initial level of fear, anger, or negative thoughts or feelings as to which said first person desires therapy to reduce the initial level;

(2) causing to be visibly displayed to, or perceived by, said first person an image of a potentially harmful object;

(3) causing said image of an object to touch, become located within, or become near said image of said second person in a manner such that said object appears to harm said second person; and

~~(4) determining whether said fear, anger, or negative thoughts or feelings of said first person have been reduced and, if not, returning to step 2.~~

(4) making a determination whether to repeat the third step, said determination comprising determining, based at least in part on user-derived input, whether, or to what extent, a reduction of the initial level of fear, anger, or negative thoughts or feelings of said first person has occurred.

2. (Original) The method of claim 1 wherein, prior to step 1 of claim 1, said first person has a first state of mind, said first state of mind characterized by thought patterns constituting or representative of fear, anger, or negative thoughts or feelings; and wherein said method further

comprises transforming said first state of mind of said first person to a second state of mind of said first person, said second state characterized by thought patterns constituting or representative of a reduction of said fear, anger, or negative thoughts or feelings.

3. (Original) The method of claim 1 wherein prior to step 1 of claim 1, said first person has a first state of mind, said first state of mind characterized by a negative cathexis with respect to said second person; and wherein said method further comprises transforming said first state of mind of said first person to a second state of mind of said first person, said second state characterized by an at least partial discharge of said cathexis.

4. (Original) The method of claim 3 wherein said method further comprises transforming said first state of mind so that in said second state of mind said first person comes to feel that he or she has imposed retribution or vengeance on said second person, said transforming occurring without said first person consciously believing that his or her conduct has actually caused said second person to suffer a physical injury.

5. (Original) The method of claim 1 wherein at least one step is carried out by a machine.

6. (Original) The method of claim 5 wherein said image of a second person and said image of an object are each located on a computer display visible to said first person, said computer display operatively coupled to a programmable processing unit operatively coupled to a memory, said memory storing a computer program for carrying out said method of claim 5.

7. (Original) The method of claim 6 wherein said image of an object is embodied in an animated graphics file, said file embodying an audiovisual work that is performed on said computer display when said first person engages in a prespecified action on an input device operatively coupled to said processing unit.

8. (Original) The method of claim 6 wherein said image of an object is translated on said display so that said image of an object appears to touch or penetrate said image of said second person, and then said image of said second person is transformed so that said second person appears to be bleeding or sustaining a mutilation.

9. (Original) The method of claim 6 further comprising:

a step of logging on to the Internet; and

an Internet-implemented step of causing a payment to be made to a vendor; and

wherein at least one step of said method comprises transmitting a signal over the Internet between the first person and the vendor.

10. (Original) The method of claim 6 wherein at least one step of said method is preceded, accompanied, or followed by an audible rendition of a predetermined phrase, mantra, or incantation.

11. (Original) The method of claim 10 wherein said predetermined phrase, mantra, or incantation is selected with regard to helping overcome negative feelings caused by said prior adverse interpersonal interaction between said first person and said second person.

12. (Original) The method of claim 1 wherein at least one step of said method is preceded, accompanied, or followed by an audible rendition of a predetermined phrase, mantra, or incantation that is selected with regard to helping overcome negative feelings caused by said prior adverse interpersonal interaction between said first person and said second person.

13. (Currently amended) A method for providing mental therapy for a victim of spousal abuse, said method comprising the steps of:

(1) causing to be visibly displayed to, or perceived by, a first person an image closely

resembling a second person, said first person a victim of spousal abuse by said second person, said first person having, in respect to said second person, feelings of fear, powerlessness, vulnerability, or anger caused by said spousal abuse;

(2) causing to be visibly displayed to, or perceived by, said first person an image of a potentially harmful object; and

(3) causing said image of an object to touch, become located within, or become near said image of said second person in a manner such that said object appears to harm said second person; ~~and~~

~~(4) causing said first person to undergo a transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger.~~ wherein, during or after said third step, said first person undergoes a transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger.

14. (Original) The method of claim 13 wherein at least one step is preceded, accompanied, or followed by an audible rendition of a predetermined phrase that has been selected for mental therapy use in regard to a victim of spousal abuse, said phrase selected with regard to helping to alleviate feelings of fear, powerlessness, vulnerability, or anger caused by spousal abuse.

Claim 15. (Canceled)

16. (Currently amended) A machine adapted for use in a therapy for alleviating anger or negative thoughts or feelings of a first person with respect to a second person, said machine comprising:

a person display unit for causing to be visibly displayed to, or perceived by, a first person an image closely resembling a second person, said first person having, in respect to said second person, because of prior adverse interpersonal interactions between

said first person and said second person, fear, anger, or negative thoughts or feelings, or a negative cathexis, as to which said first person desires therapy;

an object display unit for causing to be visibly displayed to, or perceived by, said first person an image of an object potentially harmful to said second person; and

a translator unit for causing said image of an object to touch, become located within, or become near said image of said second person, in a manner such that said object appears to harm said second person;

~~said image display unit, said object display unit, and said translator unit, when successively actuated, providing a reduction of said fear, anger, or negative thoughts or feelings, or a reduction of or an at least partial discharge of said negative cathexis.~~

said person display unit, said object display unit, and said translator unit adapted to cooperate to influence a reduction of said fear, anger, or negative thoughts or feelings, or an at least partial discharge of said negative cathexis.

17. (Original) The machine of claim 16 further comprising a determination unit for determining whether said first person has undergone a reduction of said fear, anger, or negative thoughts or feelings, or a reduction of said negative cathexis, and for again actuating an operation of said translation unit unless a reduction of said fear, anger, or negative thoughts or feelings, or a reduction of said negative cathexis has occurred.

18. (Original) The machine of claim 16 further comprising a processing unit operatively coupled to a memory in which is stored a computer program for operating or effectuating said image display unit, said object display unit, said translator unit, and said determination unit.

19. (Original) The machine of claim 18 further comprising a sound system operatively coupled to said processing unit and, operatively coupled to said processing unit, an incantation unit for causing said sound system to make a predetermined phrase, mantra, or incantation audible during at least a portion of a time when said machine is operated.

Claim 20. (Canceled)

21. (New) The method of claim 1, comprising the following additional step after the fourth step:

(5) returning to the third step and reiterating the third and following steps until it is determined that a specified reduction of the initial level of fear, anger, or negative thoughts or feelings of said first person has occurred.

22. (New) The method of claim 1, wherein at the time that the fourth step is currently iterated said first person has a current level of fear, anger, or negative thoughts or feelings, said method comprising the following additional step after the fourth step:

(5) returning to the third step and repeating the third and following steps until a time comes when it is determined that the current level of fear, anger, or negative thoughts or feelings of said first person at said time is not such that a specified reduction of the current level of fear, anger, or negative thoughts or feelings of said first person when the fourth step was last previously iterated has occurred.

# SUBSTITUTE SPECIFICATION

## TITLE

# MENTAL THERAPY METHOD FOR CATHARSIS OF NEGATIVE FEELINGS

## BACKGROUND OF THE INVENTION

### Technical Field

**[0001]** The present application relates generally to mental therapy for relief of fear, anger, resentment, and negative feelings by providing a cathartic outlet for them. The scope of the invention extends to a process or method for carrying out such therapy and also a combination of elements useful for performing the method of the invention. The invention also extends to other ancillary facets of the invention, such as computer-readable encoded media for performing the method on a computer, preferably one connected to the Internet, signals utilized in such actions, and other devices for performing the invention. Specific applications of the invention include therapy for victims of spousal abuse and certain AIDS patients.

### Related Art

**[0002]** The existence of the processes of catharsis and discharge of cathexis have long been known, although their specific mechanisms may be disputed. *Catharsis*, for present purposes, may be defined as it is in *The American Heritage Dictionary of the English Language, Fourth Edition*: 1. *Medicine*. Purgation,.... 2. A purifying or figurative cleansing of the emotions, especially pity and fear, described by Aristotle as an effect of tragic drama on its audience. 3. A release of emotional tension, as after an overwhelming experience, that restores or refreshes the spirit. 4. *Psychology*. a. A technique used to relieve tension and anxiety by bringing repressed feelings and fears to consciousness. b. The therapeutic result of this process; abreaction. A shorter but similar definition is found in *The American Heritage Stedman's Medical Dictionary* – "1. Purgation. 2. A psychological technique used to relieve tension and anxiety by bringing

repressed feelings and fears to consciousness. 3. The therapeutic result of this process; abreaction." *Cathexis*, for present purposes, may be defined as it is in *The American Heritage Dictionary of the English Language* – "Concentration of emotional energy on an object or idea." A negative cathexis, therefore, is a concentration of negative emotional energy on an object or idea, and in particular in the context of this invention a concentration of negative emotional energy on a specific person, such as anger, anxiety, or fear directed to an estranged spouse or lover, or other person with whom adverse interpersonal interactions have occurred. In catharsis or in discharge of negative cathexis, a person decreases or relieves anger, anxiety, fear, hostility, or other negative feelings or discharges a concentration of negative emotional energy, by doing or participating in activities which may include a method of therapy, in particular, psychotherapy.

**[0003]** Discharge of cathexis, as used herein, is to be distinguished from *anticathexis*, which is considered to be related to the very investment of emotion that the invention is, among other things, intended to dissipate or lessen. (Anticathexis is investment of energy in repression of negative feelings instead of bringing them out into the open and discharging them.) Discharge of negative cathexis, as that term is used herein, is also to be distinguished from *decathexis*. That term usually refers to a slow diminishment of a positive cathexis, as occurs in mourning over the death of a loved one and in detachment from a once-valued relationship. See generally S. Freud, *Mourning and Melancholia* (1917).

**[0004]** Negative cathexis causes stress and is harmful to the person having or subject to it. Stress can lead to medical problems such as ulcers, acute gastritis and diarrhea. Onsets of erythrocytosis, inflammatory bowel disease, heart attacks and ischemia are influenced by stress. In fact, there is clinical evidence that psychic or emotional stress and anxiety are associated with precipitation of overt ischemic heart diseases and sudden death. See E.D. Eaker, et al., "Anger and Hostility Predict the Development of Atrial Fibrillation in Men in the Framingham Offspring Study," *Circulation*, 2004:109(10):1267-1271; J.E. Williams, et al., "The Association Between Trait Anger and Incident Stroke Risk: The Atherosclerosis Risk in Communities (ARIC) Study," *Stroke*, 2002: 33(1):13-20; J.E. Williams, et al., "Anger proneness predicts coronary heart disease risk: prospective analysis from the atherosclerosis risk in communities (ARIC) study," *Cir-*

*culation*, 2000:2034-2039; D.S. Krantz, et al., "Mental stress as a trigger of myocardial ischemia and infarction," *Cardiology Clinics* 1996:14:271-287; M. A. Mittleman, "Triggering of Acute Myocardial Infarction Onset by Episodes of Anger," *Circulation*, 1995:92:1720-1725. By the same token, elimination or lessening of the negative thoughts and feelings that cause such stress and their adverse physiological effects is a useful, concrete, and tangible result. See J. E. Muller, et al., "Mechanisms Precipitating Acute Cardiac Events," *Circulation*, 1997:96:3233-39 ("It has been reported that anger is the predominant behavioral affect in the majority of patients who experience life-threatening arrhythmias....atients who are habitually angry can increase annual risk substantially and should be advised to seek appropriate counseling.").

**[0005]** It is known that victims of spousal abuse suffer stress induced by the abuse and feelings of fear, anger, helplessness, powerless, anxiety, loss of self esteem, and other negative feelings. See generally O. Barnett, et al., *Family Violence Across the Lifespan - An Introduction*, ch. 10, "Intimate Partner Violence: Abused Partners" (collecting references). As used hereinafter, the term "negative feelings" includes feelings of fear, anger, helplessness, powerless, anxiety, and loss of self esteem, among others.

**[0006]** It is known that one form of anger-relieving cathartic activity or discharge of negative cathexis is sticking pins into dolls supposed by the user to represent a person toward whom the user has negative feelings. Thus, a person might want to stick pins into a doll simulating bin Laden, or in an earlier era Stalin or Hitler. Some persons apparently derive emotional benefits from sticking pins into dolls representative of football players from a team rival to the user's hometown team. See Bettendorf U.S. Pat. No. 6,663,462 (2003), "Aggression-Relieving Stuffed Doll." This patent's specification asserts: "Sports fans often become quite agitated or even infuriated by the performance or antics of players on their favorite sports team or the opposing team. It is both entertaining and relieving for these sports fans to have an outlet by which to vent their emotion. Therefore, it would be desirable to have a stuffed doll that simulates a sports player into which sharp pins may be inserted." This form of behavior relies on dolls or similar tangible physical objects, and has done so since ancient times. In this connection, actual assault and battery is, of course, illegal and is usually infeasible as a means of catharsis of fear and an-

ger, for example, that caused by spousal abuse.

**[0007]** Moreover, while it may be feasible to mass-market dolls or simulacra of famous or widely known persons, such as bin Laden or Hitler, for use of the kind described above, a mass-marketable means for similarly addressing a user's anger, hostility, fear, or other negative feelings (i.e., discharging such cathexis) in regard to a former spouse or lover, personal rival, or other specific person well known to the user but not famous, well-known, or widely publicized to other persons is unavailable. For example, it is not possible for an ordinary person to find a simulacrum of an estranged spouse or lover in the marketplace, so that it can be used in this connection. To be sure, in Voodoo and other shamanistic practices, an appropriate doll or other physical simulacrum resembling the person who is the object of a user's fear or anger may be fabricated on an individual basis. But this is time-consuming and expensive, and it does not lend itself to a mass-marketable application. On the other hand, committing aggressive or simulated aggressive actions against an object that does not really closely resemble the actual person who is the object of the user's anger, fear, or similar negative cathexis is not very effective in bringing about catharsis or discharge of the cathexis for the user. It is believed that no inexpensive, mass-marketable expedient available at this time for achieving catharsis with respect to a specific, individual person toward whom a user has anger, fear, or other negative thoughts or feelings.

**[0008]** It would be desirable to provide an inexpensive, mass-marketable expedient for achieving catharsis with respect to a specific, individual person toward whom a user has anger, fear, or other negative thoughts or feelings, and/or for focusing and bringing out into the open such feelings so as to help dissipate them. Such an expedient should not be illegal as are actual assault and battery. It would also be desirable that the user not be required to believe consciously that the user's catharsis-providing actions do in fact cause physical harm to the object of the negative feelings, or that the object of the negative feelings need to be so persuaded either, as some shamanistic practices require. See D. Morse, et al., "Psychosomatically Induced Death: Relative to Stress, Hypnosis, Mind Control, and Voodoo: Review and Possible Mechanisms," *Stress Medicine* 7:213-32 (1991). Those are shortcomings of traditional Voodoo or shamanistic practices

that it would be desirable to avoid.

## SUMMARY OF THE INVENTION

**[0009]** This invention provides a way for a user (a first person) to alleviate fear, anger, or other negative thoughts or feelings that the user has toward a specific second person, who is personally known to the user and with whom the user has previously had adverse personal interactions, or to focus such anger or negative thoughts or feelings on the second person who is an object of the user's negative feelings. This is accomplished by having the user select and display an image of the second person, so that the image is visible to the user, and also select and display an image of an object that is potentially harmful to the second person. Then the user causes the displayed images to touch, become superimposed on, or located near one another. For example, an image of a knife is moved so that it appears that the knife stabs the image of the second person. It is then determined whether the fear, anger, or other negative thoughts or feelings of the user have been reduced. If not, the process is repeated. As a result, as in Voodoo and similar practices, the foregoing procedure transforms a state of mind of the user in a manner such that an at least partial catharsis or discharge of cathexis occurs, but without (as in Voodoo and similar practices) the user believing consciously that the user's simulated actions actually harm the second person in the manner acted out. A preferred embodiment utilizes computer means to carry out this procedure, such as a PC or handheld portable programmed device.

## BRIEF DESCRIPTION OF DRAWING

**[0010]** Figure 1 is a block diagram of a computer system configured to carry out an embodiment of the invention.

## DETAILED DESCRIPTION OF THE INVENTION

**[0011]** A difficulty with readily available expedients for discharging negative feelings that the invention addresses and overcomes concerns the issue of lack of sufficient resemblance between the object of the user's negative feelings and the available object for discharging the negative

feelings. For example, sticking pins into a bin Laden doll, or any generalized and undifferentiated object, is not helpful to an abused spouse in discharging her negative feelings toward the abusive spouse. The inventor considers that the insufficient resemblance between such a doll and the person against whom the user's feelings of fear and anger have been aroused (because of the latter's behavior toward the user) interferes with formation by the user of a sufficient association between such a doll and the abusive person. That in turn interferes with the needed linking between the user's symbolic acts of retaliation and the abusive person. The inventor considers that effective catharsis of the kind sought here can be provided to the user only by providing the user with a thing against which symbolic or simulated harmful actions are directed and which the user substantially associates with her abuser or other personal object of a negative cathexis. It is considered that this requires a substantial resemblance of the thing against which symbolic or simulated harmful actions are directed and the actual abusive person or other personal object of a negative cathexis, such as a visually perceived image of that person.

**Embodiment using a computer screen display**

**[0012]** In an embodiment of the invention shown in Fig. 1, a user (first person) selects and causes an image 10 to be placed on a display device such as a computer screen display 12 that provides visual displays of images, using a computer program provided to the user by a vendor (directly or via the user's therapist). The computer program may advantageously be in the form of computer-readable code embodied in a CD and installed on the hard disk of the PC. Image 10 embodies a photograph of a second person (such as the user's estranged spouse), whom the user has known personally and toward whom the user has anger or other negative thoughts or feelings because of the first and second persons' prior adverse interpersonal interactions. Image 10 may advantageously be a jpeg, such as one derived from a digital camera photograph of the second person. Other forms of graphics files can advantageously be used instead. For example, a gif of a drawing can be utilized, as can a bmp, png, or other graphics format.

**[0013]** Computer screen display 12 is operatively coupled to a processing unit 14, which is preferably a personal computer (PC) belonging to the user, or if the user is to receive therapy under the direct supervision of a therapist the PC is that of the therapist and is located in her of-

fice. Processing unit 14 can also be a microprocessor or microcontroller, if a special-purpose device is to be used instead of a PC. Thus, in a further embodiment the invention is implemented in a handheld, special-purpose, programmed microprocessor device, similar to a Palm Pilot ™ personal digital assistant, so that a user may carry it around with her.

**[0014]** A second image 16, embodied in a graphics file such as a jpeg or gif, is selected by the user and caused to be placed on screen display 12 at a first screen location 16A. Image 16 depicts a knife, sword, axe, hammer, whip, arrow, club, fist, stone, piece of broken glass, or other thing potentially harmful to the second person. For example, image 16 could depict a heap of toxic powder meant, for example, to simulate anthrax spores mixed with a carrier such as talc or the toxic powders made by skinwalkers in Southwestern Native American mythology or folklore.

**[0015]** Image 16 is then caused to move from its first screen location 16A to a second screen location 16B, as shown in Fig. 1 by a dashed arrow line. The motion is advantageously effected by the user's utilization of a cursor 18 (in cooperation with a mouse, trackball, joystick, keyboard, or similar input device 20 operatively coupled to processing unit 14) to drag the image. Dragging image 16 with a mouse is a preferred means for the user to translate or move image 16 from location 16A to 16B, but other means for effecting the motion are discussed hereinafter. In one implementation of the invention, images 10 and 16 are selected to be "objects" utilized by a Java applet that allows, for example, image 16 to be clicked on by the user, who then mouse-drags it from location 16A to 16B.

**[0016]** The motion is effected in a manner such that in screen position 16B the object that image 16 depicts appears to harm the second person. If image 16 is that of a knife or sword, it may be made to appear to penetrate the body of the second person. If image 16 is that of a club, it may be made to appear to hit the second person on the head. If image 16 is that of a heap of toxic powder, it may be made to appear to be very close to the nose of, and being inhaled by, the second person. If image 16 is that of pieces of broken glass, it may be moved by the cursor to appear to have been placed within the interior of the body of the second person. Other candidates for image 16 are axes, hammers, whips, arrows, chains, fists, and boots. Still further candidates for image 16 as potentially harmful objects will be apparent to skilled persons.

**[0017]** Audio output unit 22, which may be implemented with one, or more, speakers or by headphones, is driven by processing unit 14 in synchronization with one, or more, features or occurrences of the steps of the process of the invention displayed by screen 12, to enable at least one step to be either preceded, accompanied, or followed by an audible rendition of a phrase, mantra or incantation. The phrase, mantra or incantation may be selected with regard to helping the user overcome negative feelings caused by prior adverse interpersonal interactions between the user and a second person, which are believed to have precipitated the fear, anger, or negative thoughts or feelings of the user. This supplement to the process may contribute to a diminution of the fear, anger, or negative thoughts or feelings, or a reduction of the negative cathexis, in the user.

**[0018]** Audio output unit 22, which may be implemented with one or more speakers or by headphones, is driven by processing unit 14 while one or more steps of the process of the invention occur. This enables at least one step of the process to be preceded, accompanied, or followed by an audible rendition of a phrase, mantra or incantation. The phrase, mantra or incantation may be selected with regard to helping the user overcome negative feelings caused by prior adverse interpersonal interactions between the user and a second person, which are believed to have caused the fear, anger, or negative thoughts or feelings of the user. This supplement to the process may contribute to a diminution of the fear, anger, or negative thoughts or feelings, or a reduction of the negative cathexis, in the user.

**[0019]** The embodiment initially described above is one in which the user uses a cursor 18 to move object 16 to object 10, from position 16A to position 16B. However, conventional computer programming expedients permit automatic motion of images 10 and 16 relative to one another without use of a cursor to effect the translation across the screen.

**[0020]** By engaging in the procedure described, and appropriately juxtaposing images 16 and 10, the user in effect commits mayhem on the second person in virtual, rather than actual, space. After one or more such acts of virtual mayhem, it is determined whether a desired cathartic effect has been realized, thereby substantially reducing the user's fear, anger, or negative thoughts or feelings, or bringing about at least a partial discharge of the negative cathexis. If not, the proce-

dure is repeated. As used hereinabove, the term "substantially" means not insubstantially. That is, the determination is made as to whether more than a trivial or insignificant reduction occurred. The reduction should be at least enough to be perceptible, as distinguished from de minimis and imperceptible. The purpose is to bring about a therapeutically efficacious result, comparable to dispensing an effective dosage amount of a medication. In the absence of a standard set by an individual therapist for a specific patient, which is preferred and when available would supersede any rule of thumb, it is considered that 5% provides a rule of thumb for substantial versus insubstantial where a quantitative measurement is used, such as that described hereinafter for automatic machine monitoring of blood pressure.

**Determination of effect**

**[0021]** Several different expedients are available for providing a way to determine whether the user has undergone a reduction of her fear, anger, or negative thoughts or feelings, or a reduction of or an at least partial discharge of her negative cathexis. The method of determination can be by suitable verbal interrogation, if a therapist is using the invention with a patient. Also, an individual user may self-interrogate herself in response to messages on a screen display, thereby providing a YES or NO signal which is fed to processing unit 14.

**[0022]** An individual user may also use any of a number of conventional electronic devices for determining reduction of stress by measuring a physiological parameter considered representative of stress, such as blood pressure, pulse rate, or palm-sweating. For example, blood pressure or pulse rate can be measured and monitored with many automatic measuring devices now on the market. The output of such a device is advantageously fed to processing unit 14, so that the process of the invention is repeated (for example, by using a conventional "while," "do while," or "do until" loop in the program) unless the device indicates an appropriate reduction of blood pressure or pulse rate (for example, 5%). (This portion of the system can be referred to as a determination unit. The "determination unit" can be hardware or software in a PC, as well as a combination of both.)

**Alternative embodiments regarding motion of images**

**[0023]** In a preferred embodiment the user moves image 16 by using cursor 18 from position

16A distanced from image 10 to position 16B near, touching, or within image 10. For example, the user moves an image 16 of a stone or rock from one part of the screen across the screen, so that the stone appears to strike an image 10 of the head of the second person.

**[0024]** But instead the user could move an image 10 representative of the head of the second person across the screen so that it appears to strike against an image 16 of a stone or rock. This is a comparable expedient. Thus, depending on the effect desired and the harmful object involved, the user causes the images 10 and 16 to touch, become superimposed on, or located near one another, through the motion of one or the other, or both, images, in a manner such that the harmful object appears to harm the second person in, effectively, an act of virtual mayhem. (As used hereinafter, terminology such as "causing the image of the object to touch the image of the second person" means moving the object image to the person image, moving the person image to the object image, and/or any relative motion of the images by which the result is that they touch each other.)

**Special cursors**

**[0025]** As already described, in a preferred embodiment the user effects motion by using a cursor 18 to drag an image across the screen. Cursor 18 on a PC screen display is ordinarily an arrow, but it need not be. It is considered preferable for purposes of this invention to use a cursor shaped like a hand, for example, as occurs in applications such as Adobe Acrobat ™ software. Even more advantageously, cursor 18 is displayed as an open hand until the user moves it over image 16 (which is, for example, an image of an ax) and clicks the mouse. The open hand cursor image is then replaced by a closed hand image that appears, for example, to clasp the handle of the ax. The user then drags image 16 to image 10, with the cursor/hand appearing to grasp the ax.

**[0026]** In another implementation, the cursor is reduced to a one-pixel square after clicking on object 16, so that when the object image (for example, a rock) is translated across the screen by the motion of the mouse, the moving image (rock) seems to be just an extension of the user's hand (which is on the moving mouse). These expedients increase the verisimilitude of the operation and are considered to enhance the user's feeling that he or she is personally performing or

acting out the action depicted.

**[0027]** Such motion to translate image 16 from location 16A to location 16B can instead be effected in a predetermined manner by computer program means, without a cursor. This is described below.

**Animation effects**

**[0028]** In a further embodiment image 16 is an animated graphics file (or what the copyright statute, see 17 U.S.C. § 101, terms an audiovisual work). Thus if image 16 is that of a club, it may be programmed to show apparent motion of a club from a first position to a second position, for example, through a 90 degree rotation or a horizontal or vertical displacement. Then the club would appear in a first position to be somewhat distanced from the head of the second person and in a subsequent position appear to be contacting (striking) the head of the second person.

**[0029]** The animated graphics file could be programmed to loop indefinitely or a predetermined number of times, so that the second person appears to be repeatedly struck on the head with a rock or club. If image 16 is that of a knife, it may be programmed to show apparent motion of a knife from a first position to a second position, for example, through a horizontal or vertical displacement. Then the knife would appear in a first position to be somewhat distanced from the body of the second person and in a subsequent position to be penetrating the body of the second person. The animated graphics file could be programmed to loop indefinitely or a predetermined number of times, so that the second person appears to be repeatedly stabbed. If image 16 is that of a heap of toxic powder, it can be placed near the nose part of image 10. The successive frames of the animated graphics file would then depict the heap of powder changing from a heap to a cloud of particles that blows toward and into the nostrils of image 10.

**[0030]** It is considered preferable in the case of some users to require each animation performance from the first through last frames of the animated graphics file to be initiated by a prespecified volitional user action, such as a mouseclick or keystroke carried out by means of user input device 20, instead of automatically endlessly looping an animated graphics file. Whether impersonal commission of simulated mayhem (automatic initiation of the animation sequence) or requiring positive user involvement in actuating the simulated mayhem (i.e., by using a user actu-

ated initiation means for each animation sequence) is more therapeutically efficacious may have to be determined empirically case by case. In some circumstances, the user's repeated act of pressing the return key or pressing a mouse button, thereby initiating a new animation sequence of a simulated stabbing or clubbing of the second person provides enhanced catharsis. The motor action by the user actualizes the user's feeling of personal causal involvement in the retribution event. Other users, perhaps more squeamish, may prefer to see the second person "get what he has coming" without need for their active intervention. It is advantageous, therefore, to include a design feature that permits operation in either of these modes at the user's option.

**[0031]** In a variation of these embodiments, use of an animated graphics file permits a simulation of blood to flow or drip from image as an apparent result of the hostile actions committed against it. A programming expedient that advantageously simulates blood flow is to superimpose image layers over the initial image of the second person, where the added image layers embody the blood flow. The inventor has placed, and made available on-line, on the Internet an illustrative animated gif using this technique – docs.law.gwu.edu/facweb/claw/Ax2Head.gif. This gif shows an animation of Fig, 1 hereof, in which blood is shown flowing down the head of image 10, as an apparent result of the action of image 16 (an axe).

**[0032]** It is contemplated that relatively simple animation effects, such as that of the club or knife, can be provided as part of a vendor's standard CD-based product. More complex animation techniques, however, are likely to be more feasible with a service-bureau type of implementation, using the Internet.

**[0033]** Technology for implementing the foregoing expedients is well known to those skilled in the art of programming graphics, although at this time such technology does not appear to be used for therapy. Thus, expedients similar to those described in the preceding paragraph can be implemented by means of Java ™ software applets. An example of such Java ™ programming, for purposes of entertainment or amusement, rather than for therapeutic alleviation of anger or anxiety with respect to a specifically known person such as a former spouse, is available on the Internet. See the Web page of Virtual Design Group, Inc. of Atlanta, GA. For example, most of the routines needed to implement the graphics for this invention are standard library features in

Sun Microsystems' Java ™ Software Development Kit 1.5. Alternatively, Flash ™ animation software could be used to create the visual animation.

**[0034]** While PC graphics have been described above, the same principle applies to other image creation or reproduction devices. These include, without limitation, projection on a wall or screen, Palm Pilot™ -like personal digital assistant devices, holographic projection, and other holographic devices.

**Internet-implemented embodiments**

**[0035]** One aspect of the invention is how it is exploited commercially. As described previously, a vendor can exploit the invention, among other ways. by programming suitable computer-readable code onto a computer-readable medium (such as a CD) that the user can input into the user's PC or special-purpose programmed-microprocessor device. This approach essentially requires selling the CDs and/or special-purpose programmed-microprocessor devices to end users. An Internet-based approach lends itself to more varied, complex, and elegant expedients. If the user connects her PC to the vendor's Internet site, a more service-bureau type of approach is available.

**[0036]** Particular different images of additional harmful objects can be vended by Internet means – particularly those such as the previously described animated graphics files of clubs or knives and of exploding heaps of toxic powder. Such images can also be made available on a fee-per-use basis. Internet and service-bureau implementations also lend themselves to customized effects not otherwise feasible for most users. For example, software now exists that permits combination of image files – one person's head on another person's body. This permits combining a custom head (i.e., an image of the second person) with an already animated graphics file of a body. Thus, a user may send a jpeg or gif of her ex-husband's head and/or entire body to the vendor via Internet; the vendor may then send back an animated graphics file that causes an image 10 of the ex-husband to appear to be stabbing himself in the stomach or otherwise being injured. This technique permits apparent changes (such as alterations or mutilations, or loss, of body parts) to occur as a result of the aggressive actions performed virtually against the second person. In an extreme case, the returned image might show the ex-husband simulating Oedipus

by sticking a sharp object into his eyes and bleeding copiously, thereby providing classical catharsis to the ex-wife without any actual harm coming to the ex-husband, while at the same time the ex-wife suffers no conscious guilt or legal liability to which causing actions in actual, rather than virtual, space would expose her. Similarly, expedients may advantageously be employed such as that of an animated representation of a pit bull chewing on a body part of the second person or of a bear disemboweling him. Other forms of mayhem simulation will be obvious to those skilled in the art, for example, as suggested by the celebrated case of *Commonwealth v. Bobbitt*, No. 93-CR-33821 (Cir. Ct. Va., filed Aug. 23, 1993). (A software programmer of ordinary skill will be aware of the sources of routines, modules, and small programs for performing the foregoing expedients and the other graphics-related functions used in the invention, so that they can readily be incorporated into the overall, larger program of the invention.)

**[0037]** Such seemingly extreme applications can prove especially beneficial in circumstances where the second person has caused a serious and irrevocable injury to the first person. For example, the method of the invention is advantageously adapted for use in an AIDS therapy, such as that of Example 2. It is considered that the first person's use of this method helps alleviate the feelings of anger and resentment due to this serious and irrevocable injury. Another type of serious and irrevocable injury for which such expedients may be appropriate is a case where the second person has caused the death of a third person having a special relationship to the first person (for example, killed a child of the first person). Therapy to overcome feelings of helplessness and powerlessness in cases of spousal abuse, such as Example 1, are also candidates for such expedients.

**[0038]** In such Internet-implemented embodiments, the computer-readable code is not preferably encoded into a computer-readable medium such as a CD (although it can be) that is then provided to the user, but rather as a computer-readable signal that is transmitted via the Internet from the vendor to the user's PC or vice-versa. (Signals may need to be transmitted in both directions, not only for payment of the vendor but for interactive aspects of the procedure.) In Internet-implemented embodiments, the method of the invention is adapted so that at least a substantial portion of at least one step is effected by transmitting a signal via the Internet from the

user to the vendor or from the vendor to the user (or both).

**Incantations**

**[0039]** Further, the vendor can vend a phrase, mantra, or incantation to the user to use with the method, and can do so, for example, by Internet means. Indeed, the phrase, mantra, or incantation can be combined with appropriate computer code so that a sound system and sound file plays the phrase, mantra, or incantation audibly while the steps of the method are performed; the package of necessary code is advantageously vended as a unit by Internet means. Such a phrase, mantra, or incantation is customizable for the particular therapeutic use. For example, spousal abuse therapy is appropriately accompanied by selection of a different kind of phrase (for example, "You are not helpless! You can control your life!") than is suited for use in therapy with regard to being dumped by a lover; in other cases the negative feelings and thoughts in question will call for still different types of language. For best therapeutic effect, such phrases should be selected so that they will help to alleviate the particular kind of negative feelings involved. For example, in a case of spousal abuse the negative feeling to be overcome are those of fear, powerlessness, vulnerability, or anger caused by spousal abuse, and the example given above ("You are not helpless! You can control your life!") is selected for that purpose. Feelings of victimization, for example, may call for words suggesting the imminence of retribution or vengeance against the second person. Still other users may prefer phrases, mantras, or incantations in Aramaic, such as "Avada Kedavra!"whiled other users may consider Latin phrases to be more efficacious, such as "Arde in regnum phasmatis!" Customization of the phrase for a given user can involve use of the name of the second person: for example, "Take that, Greg!" or "Drop dead, Alex!"

**[0040]** When such an incantation is to be used, the computer program controlling the PC must utilize and/or include hardware and software components for causing an audible recitation or rendition of the incantation that a vendor has provided for this purpose (as a sound file, such as midi, rm, wav, wma, or xmf), so that the recitation occurs during at least a part of the procedure. PCs typically include (or come equipped with) conventional software (e.g., RealPlayer ™ software, IrfanView ™ software) and hardware (sound cards and speakers) for playing music, which is advantageously put to this use. The foregoing incantation unit can either cause recitation of

the incantation automatically upon screen placement of object image 16, for example, or else upon a specified user action such as a keystroke or a mouse click on a button shown on the GUI, done at a moment selected by the user.

**[0041]** It is considered that the cooperation between the audio performance of the incantation and the simultaneous performance of the translation of object image 16 across the screen and against second person image 10 enhances the functional impact of the simulated mayhem and makes it appear (perhaps subconsciously) more efficacious to the user. Moreover, the ability of the system of the invention (or a vendor employing it) to provide prerecorded incantations in Latin or various mysterious foreign languages provides a facility that users are typically unable to provide on their own for themselves. It is considered that these features enhance the desired therapeutic effect. Also, as previously suggested, different users' therapy needs can call for use of different, indeed, customized, phrases or incantations. A library of these can be provided along with the computer program, so that appropriate ones are available for selection by the user. Alternatively, appropriate ones for a particular user' therapy needs can be made available over the Internet.

**Illustrative examples**

EXAMPLE 1

**[0042]** Jane Doe is a victim of spousal abuse. As a result she has negative feelings such as fear, vulnerability, powerlessness, and helplessness with respect to John Doe, her abuser. Jane Doe has formed a negative cathexis with respect to John Doe.

**[0043]** A vendor commercially exploiting the invention sells a CD to Jane Doe or to her therapist (who can direct its use by Jane Doe in therapy). The CD is encoded with computer-readable code (a computer program and various data files) to permit the user thereof to carry out the following procedure on the user's conventional PC equipped with Windows 98 ™ software or higher. The user copies the CD to the hard disk of the PC.

**[0044]** A photographic image of John Doe, a jpeg obtained by use of a digital camera, is input. The program resizes the John Doe image to a predetermined size (very approximately, image height 25% to 40% of screen height) and prepares a John Doe thumbnail image. Both the resized

John Doe image and the thumbnail image are stored in a subdirectory (folder), which is conveniently designated "Abusers." (Resizing gifs and jpegs to a desired size, while retaining the aspect ratio, is a commonly available function on most standard graphics programs, such as IrfanView. ™ Many thumbnail programs, such as ThumbsPlus ™, are also available.)

**[0045]** Another subdirectory (folder) copied to hard disk from the CD is conveniently designated "Weapons." This folder contains jpeg or gif images of knives, clubs, rocks, pieces of broken glass, and the like, which are appropriately resized with respect to the resized John Doe image to make the relative sizes of the images appear realistic. Thus the size of a club or knife would be in realistic proportion to the size of a head or body.

**[0046]** Jane Doe activates the program (for example, by clicking on a button on a graphic user interface control panel on the screen display). A menu or group of buttons appears on the screen display. A message such as "Select Abuser" appears on the screen display and the file menu of Abuser (second person) images appears as thumbnails. The user clicks on a thumbnail John Doe image and thereby selects an Abuser. The resized image of the Abuser, John Doe, now appears at the right part of the screen display as image 10 of Fig. 1. (The mechanical implementation of this portion of the system can be referred to as a person image unit. In the embodiment described hereinabove, this unit comprises portions of a computer program cooperating with portions of the PC.)

**[0047]** A message such as "Select Weapon" now appears on the screen display. Thumbnail images are presented showing the knives, clubs, rocks, etc. stored in the Weapons folder. Jane Doe clicks on a thumbnail image of a rock and thereby selects as image 16 of Fig. 1 an image of a rock. The full size image of the rock now appears at the left part of the screen. (This portion of the system can be referred to as an object image unit. In the embodiment described hereinabove, this unit comprises portions of a computer program cooperating with portions of the PC.)

**[0048]** Both images now become objects or "sprites" that are used by a computer program such as a Java applet.

**[0049]** A message such as "Act Now" appears on the screen display. Jane Doe moves the cursor to the image of a rock, left clicks the mouse, and drags the rock image rightward toward

the image of John Doe. Jane Doe moves the cursor so that the rock appears to strike John Doe. That is, Jane translates the rock across the screen and makes the rock appear to hit John on the head. Jane may repeat the process as desired before exiting the program. (This portion of the system can be referred to as a translation unit. In the embodiment described hereinabove, this unit comprises portions of a computer program cooperating with portions of the PC.)

**[0050]** Jane's execution of the process is cathartic and helps lessen her feelings of fear, vulnerability, powerlessness, and helplessness with respect to John Doe.

EXAMPLE 2

**[0051]** Bill Smith is an AIDS patient. Bill is depressed and harbors severe feelings of resentment against Tom Brown, a former partner of Bill. Bill believes that Tom, while being knowingly HIV positive, caused Bill to contract AIDS by exposing Bill to HIV through failure to utilize appropriate protective measures to prevent such exposure to HIV during personal contact. Bill has developed a negative cathexis regarding Tom.

**[0052]** The procedure of Example 1 is repeated but the image from the Abusers folder is that of Tom and the image from the Weapons folder is that of an animated graphic of a knife that displaces itself longitudinally from left to right one time when activated. Bill drags the knife image to a position to the left of a part of the image of Tom. The animation sequence begins only when the user, Bill, performs some specific manual action such as pressing a return key, clicking on a button on the screen, or right-clicking the mouse. That is a means for initiating the animation, which then begins and the animated knife image appears to stab the image of Tom. Bill right-clicks (or otherwise actuates the initiating means) as many times as he desires to symbolically stab Tom. This conduct effects or facilitates a partial discharge of Bill's negative cathexis towards Tom.

EXAMPLE 3

**[0053]** A therapist directs a patient Mary to carry out the procedure of Example 1 or 2. After one or more virtual rock bashings or stabbings, the therapist interrogates Mary to determine whether a cathartic reaction has occurred. (The therapist may also compare Mary's before and after blood pressures.) If a substantial cathartic reaction occurs, the therapist has Mary exit the

program. If not, the therapist has Mary carry out additional virtual rock bashings or stabbings.

EXAMPLE 4

**[0054]** Alex is angry and depressed because of Greg's conduct. Greg drove his car recklessly while under the influence of a controlled substance. Greg wrecked his car, but escaped uninjured; however, his passenger, Alex's son Jason, was killed. Greg was charged with manslaughter but merely received a year of probation.

**[0055]** Alex carries out the procedure of Examples 1 or 2. He completes a predetermined number (one or more) of sequences of virtual rock bashings or stabbings of Greg, a message appears on the screen display, such as "Do you feel better yet? Click on YES button or NO button." If the user Alex clicks on the YES button, the program terminates. If the user Alex clicks on the NO button, another predetermined number of sequences of virtual rock bashings or stabbings is initiated by placing the "Act Now" message on the screen display.

EXAMPLE 5

**[0056]** In a variation on the procedure of Example 4, the PC is provided with a supplemental input device that automatically measures user pulse rate. Instead of asking the user Alex whether he feels better yet, the PC now periodically evaluates the measured user pulse rate input. If the user pulse rate is not lowered to a predetermined extent (for example, 5%), the program keeps looping back to "Act Now." (This is subject to user override.)

EXAMPLE 6

**[0057]** Jane Doe of Example 1 (or her therapist) provides to a vendor a photograph or jpeg image of John Doe. (John Doe's image is image 10 of Fig. 1.) The vendor, using conventional techniques, prepares an animated gif.

**[0058]** The gif is an animation of Fig. 1 in which an image 16 of an ax at the left of the screen automatically crosses the screen to an image 10 of John Doe at the right of the screen. The ax then appears to chop the top off John Doe's head, which is horizontally displaced to the right of the adjacent lower part of the head. Blood appears to flow down the head and from the ax. The gif then loops back to its first frame and the same action repeats.

**[0059]** The vendor provides the gif to Jane Doe (directly or via her therapist). Jane Doe views the animation several times until a determination is made that viewing the animation has had a desired (cathartic) effect. Jane Doe now stops viewing the animation. Her state of mind has been transformed so that her previous feelings of fear, powerlessness, vulnerability, and anger resulting from John Doe's spousal abuse of her have been reduced.

**Other implementations and general operation of invention**

**[0060]** The specific embodiments described above are based on a PC and computer screen display, but the invention is not so limited. For example, holographic cards and similar devices already exist in which an image viewed at one angle appears different when viewed at another angle. The bird logo on a VISA ™ credit card is an example. The District of Columbia driver's license uses a similar expedient for security purposes. It is considered uneconomical (i.e., too expensive) at this time to create for a single user a customized holographic card animation comparable to that of Example 6. With anticipated advances in holographic technology, however, it should in the future become possible to provide, at a commercially practicable cost, a generally credit card sized holographic device embodying a user-customized animation generally comparable in concept to Example 6. That would permit a therapist to provide a patient like Jane Doe with a portable holographic card that she could use inconspicuously at any time and place when feelings of anxiety occurred.

**[0061]** The invention is thus considered to extend more generally to any similar process or combination of elements that carries out these steps: causing an image to be visibly displayed to, or perceived by, the first person (user); this image closely resembles a specific second person who has caused the user to feel fear, anger, helplessness, vulnerability, or other negative feelings. A further step is causing another image to be visibly displayed to, or perceived by, the user. This other image is that of an object seen as potentially harmful to the second person, for example, a knife or axe. Relative motion of these images in relation to one another is caused, so that the object appears to the user to be harming the second person. This brings about the transformation of subject matter described above (whether the images are located on a computer display or any other display device). That is, the state of mind of the first person (user) is transformed by the

foregoing actions so that catharsis or discharge of negative cathexis occurs to at least some extent, even though the user does not consciously believe that the actual harms depicted befall the second person. The elements of the invention, in combination and cooperating together, thus provide a means for a reduction of fear, anger, or negative thoughts or feelings, and/or a reduction of or an at least partial discharge of a negative cathexis, to which the user has become subject because of prior personal adverse interactions with the second person.

**[0062]** While the biochemical or other physiological mechanism of catharsis is disputed, the existence of catharsis is not seriously disputed and has been believed in, in one form or another, since at least as early as the writing of Aristotle's *Poetics*, and expedients for performing sympathetic magic generally or analogously related to the above described discharge of negative cathexis were believed accomplishable and have been sought to be accomplished perhaps as early as when cave men 15,000 to 20,000 years ago drew pictures on cave walls at Lascaux showing arrows being shot into edible game — although not by the means described and claimed herein. (There are important distinctions between the present invention and these expedients. Aeschylus did not intend the bloody bath episode in *The Agamemnon* to be utilized by Athenian women as therapy for spousal abuse, nor did it provide that function. Likewise, Sophocles did not intend *Oedipus Rex* as therapy for young men jealous of their fathers' relationship with their mothers. Further, Voodoo and sympathetic magic expedients are not sought or provided as mental health therapies. They are intended for use simply as "machines" for accomplishing their supposed result (manipulation of the external world), and they require users to believe in them, as pointed out, for example, in D. Morse, et al., "Psychosomatically Induced Death: Relative to Stress, Hypnosis, Mind Control, and Voodoo: Review and Possible Mechanisms," *Stress Medicine* 7:213-32 (1991).)

**[0063]** Despite the disputes over how catharsis works, it is considered that in the context of this invention, the thought patterns of the user that constitute or are representative of anger, anxiety, fear, hostility, or other negative thoughts or feelings are transformed to user thought patterns that constitute or are representative of less anger, anxiety, fear, hostility, or other negative thoughts or feelings. Such thought patterns may be embodied electrically, biochemically, or

otherwise in a manner not fully explainable in the present state of scientific knowledge. It is widely accepted that memories and other thought patterns are embodied in electric and chemical signals that circulate or are transmitted from place to place within the human brain. Indeed, a considerable body of information exists on how different forms of mental activity can be imaged on electronic brain scan displays, and how changes in such activity upon occurrence of certain stimuli or mental activities can be viewed on such brain scan displays. See, e.g., M.S. George et al., "Advances in Brain Imaging: An Overview of What the Primary Psychiatrist Needs to Know." It is thus considered that the operation of the invention causes one set of such signals within the brain to be transformed into a different set of such signals, where the first set is representative of one physical state (characterized, for example, by fear or anger based on memories of prior experiences) and the second set is representative of a different physical state (characterized, for example, by a reduction in such fear or anger).

**[0064]** The invention thus achieves the desirable objectives of providing an inexpensive, mass-marketable expedient for achieving catharsis with respect to a specific, individual person toward whom a user has anger, fear, or other negative thoughts or feelings, and/or for focusing and bringing out into the open such feelings so as to help dissipate them. The expedient of the invention is not illegal as are, for example, actual assault and battery. The user is not required to believe consciously that her catharsis-providing actions do in fact cause physical harm to the object of the negative feelings, and the object of the negative feelings need not be so persuaded either. This advantageously avoids producing feelings of guilt in the user or risks of liability, which creating such belief by engaging in actual physical acts could cause. Moreover, the difficulty is obviated that it is likely that neither the user nor object of the feelings could readily be so persuaded. The invention thus avoids or overcomes those shortcomings of analogous traditional Voodoo or shamanistic practices and of actual physical retaliation.

## CONCLUDING REMARKS

**[0065]** While the invention has been described in connection with specific and preferred embodiments thereof, it is capable of further modifications without departing from the spirit and

scope of the invention. This application is intended to cover all variations, uses, or adaptations of the invention, following, in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice within the art to which the invention pertains, or as are obvious to persons skilled in the art, at the time the departure is made.

**[0066]** It should be appreciated that the scope of this invention is not limited to the detailed description of the invention hereinabove, which is intended merely to be illustrative, but rather comprehends the subject matter defined by the following claims.

**[0067]** As used in the specification and claims:

**[0068]** The term "image" means a likeness or representation of a person, animal or thing. The term includes pictorial images such as those capable of being embodied in a graphics file (jpeg, gif, png, bmp, ico, ani, etc.) of a photograph, drawing, or other picture. References to providing, accepting, or selecting an image (and like expressions) refer to providing, selecting, etc. such a graphics file (such as a jpeg or gif), or a signal or machine-readable medium embodying or representative of such a file; or providing, selecting, etc. something from which the subject matter of the image can be perceived, reproduced, or communicated.

**[0069]** The term "display" is usually used herein as a verb, but it is not so restricted and is used at times herein as a noun, and while a display device includes a computer display (e.g., CRT) the term "display device" is not so restricted and just requires that a device is used that causes the images to be displayed to or perceived by the user.

**[0070]** The term "processing unit" includes microprocessor, microcontroller, and personal computer. The terms "image unit," "determination unit," and "translation unit" include hardware and/or software components.

# REMARKS

**Election/Restrictions**

The Examiner required, under 35 U.S.C. §121, a restriction between:

Group I Claims 1-14 and 16-19, drawn to a method for providing mental therapy, classified in class 434, subclass 236.

Group II. Claim 15, drawn to a method for providing mental therapy for an AIDS patient having feelings of victimization, classified in class 434, subclass 236.

Group III. Claim 20, drawn to cards, classified in class 40, subclass 124.01.

Applicant elects Group I covered by claims 1-14 and 16-19, and cancels claims 15 and 20 without prejudice to applicant's pursuing them by way of a divisional or similar application.

**OBJECTIONS TO THE SPECIFICATION**

**1.** The disclosure is objected to because of the following informalities: p.6, line 20 of the specification, "previously has" should be -- previously had --. Paragraph [0009] of the specification has been amended hereinabove to correct this informality.

The examiner required submission of a PTO-1449 and accompanying copies of nonpatent documents. That is being done concurrently with this Amendment.

**2.** The disclosure is objected to on the ground that it contains an embedded hyperlink and/or other form of browser-executable code. The examiner refers in this connection to MPEP § 608.01. It is noted that the text of MPEP § 608.01 (8th ed. Aug. 2001), Rev. Oct. 2005, available online at the PTO Web site, does not itself directly refer to hyperlinks. But 37 CFR 1.57(d) states that an incorporation by reference by hyperlink or other form of browser executable code is not permitted. The instant specification does not incorporate anything by reference by hyperlink or other form of browser executable code; it simply stated that the cited material was available online at the cited URL. Therefore, 37 CFR 1.57(d) is inapplicable. However, the applicant has

nonetheless corrected the specification in this Amendment by deleting or disabling every hyper-link, so that nothing can directly execute. Accordingly, no hyperlink or browser executable code is now contained in the amended specification.

**3.** The examiner objected to references to trademarked products in the specification. The applicant has inserted initial capital letters and appended "™" to trademarks in the specification where appropriate, and has included such corrections hereinabove in this Amendment.

**4.** The Examiner required placement of paragraph [0036] in the order specified under 37 CFR 1.77(b). It is noted that the two (2) duplicate compact-discs simultaneously filed with this application have been previously removed from the application as filed in applicant's Response to Notice to File Missing Parts filed on 30 September 2005. Paragraphs [0019] and [0039] in which these compact-discs are described under 37 C.F.R. §1.52(c)(2) and 37 C.F.R. §1.77(b)(4) are removed by this Amendment, accordingly.

**CLAIM REJECTIONS - 35 U.S.C. § 112**

**Enablement - 35 U.S.C. § 112 ¶ 1**

Claims 13-14 and 16-19 stand rejected under § 35 U.S.C. § 112 ¶ 1 as failing to comply with the enablement requirement (p. 7). Claims 13-14 are directed to a method for providing mental therapy for a victim of spousal abuse, where an image of a spousal abuser and an image of a harmful object (such as an ax, *see* http://docs.law.gwu.edu/facweb/claw/Ax2Head.gif) are made to come into contact (or proximity) with one another in a way such that the harmful object appears to harm the spousal abuser, whereupon the victim undergoes a transformation of mental state in which occurs a reduction of the victim's feelings of fear, powerlessness, vulnerability, or

anger with respect to the abuser. Claims 16-19 are directed to a machine adapted for similar therapeutic use, where an image of a person (e.g., a spousal abuser) and a harmful object are similarly made to come into contact (or proximity) with one another in such a way that the harmful object appears to harm the person, for example, by displaying images on a computer screen display as described above and in the above cited Ax2Head.gif.

The office action asserts that the claimed subject matter does not enable users to make and/or use the invention because "it does not appear as if the invention could be practiced to produce a concrete result without undue experimentation" (citing MPEP 2164.01(a) and *In re Wands*, 858 F.2d 731 (Fed. Cir. 1988)). The entire explanation for this conclusion is set out on p. 7 of the office action, which states:

> In this case, the examiner has considered each of these [*In re Wands*] factors in arriving at the conclusion that the invention could not produce a concrete result without undue experimentation. The evidence in the application file has been considered for each of the factors as a whole and all of the factual considerations have been weighed. Specifically, the intended operation of the process is to provide mental therapy. The factors used in the process are subjective in nature with any result of the process being speculative at best. Applicant has not set forth any evidence or direction in the record that would lead one of ordinary skill in the art to be able to use the disclosed methods of and system for providing mental therapy and arrive at a specific, predictable result. The very low predictability of this invention due to the subjective nature of the elements used therein, coupled with the lack of direction provided by the specification and the subjective nature of the invention far out-weigh all other *Wands* factors when considering the necessity for undue experimentation.

Although the office action states that the reason for this rejection is lack of enablement, the explanation appears to argue that the invention is inoperative or not necessarily operative in a consistent, predictable manner. The applicant is uncertain whether the instant rejection is for requiring an undue amount of experimentation in order to practice the invention as claimed,

based on using the amount of instruction that the specification provides, or rather for being inoperative in the way that a perpetual motion machine is inoperative. Accordingly, the applicant will address successively both of those points, for completeness.

**A. How to carry out the invention**

**1.** Virtually no experimentation, or at most only a few minutes, is needed for a user to practice the invention as claimed, because of the very detailed instructions that the specification contains. The six numbered Examples, labeled as such in the specification, and numerous other examples set out in the Detailed Description section of the specification, which elaborate on the six numbered Examples and suggest variations on them to accomplish particular specific results or to deal with different specific situations, describe exactly what a user is supposed to do to practice the invention. Consider, for example, claim 13, which is representative of the rejected claims in this respect. A user (a victim of spousal abuse[1]) is illustratively supposed to do as follows: (1) select an image of a person (hereinafter referred to as the "Abuser") who abused the user, and place the image on the screen (using conventional software); (2) select an image of a harmful object (for example, an ax) and place it on the screen (using conventional software); (3) cause the images to become in contact (or proximity) with one another, so that the object appears to harm the Abuser (using conventional software). The user observes the interaction of the images and is free to repeat the steps of the process as desired to experience a user-desired amount of cathartic effect. The amount of experimentation required for a user to begin to do this is, at most, a few minutes. The ease and rapidity with which a user can carry out this process is illus-

[1] For the invention of claim 13, the typical user is the abused spouse but, depending on the circumstances, the user can be considered to be the therapist treating the abused spouse.

trated in a conventional animation that can be viewed at http://docs.law.gwu.edu/facweb/claw/Ax2Head.gif on the Internet (animation of ax striking head of notional Abuser).

It therefore does not take an undue amount of experimentation time to make and/or use the invention. Cf. *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1321 (Fed. Cir. 2003) (burden to prove non-enablement not met without "record evidence recounting the amount of experimentation one of skill in the art would require to develop the conveyor lifting system of the [accused machine] in view of the…patent disclosure").

**2.** The applicant respectfully notes that the Federal Circuit places the burden on the PTO (here, the examiner in the first instance) to prove by a preponderance of *record evidence* that the applicant is not entitled to a patent. That burden extends to every aspect of patentability, including, without limitation, enablement.[2]

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[2] See generally *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). See also *Fiers v. Revel*, 984 F.2d 1164, 1171-72 (Fed. Cir. 1993) ("'a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.'"); *Fregeau v. Mossinghoff*, 776 F.2d 1034, 1038 (Fed. Cir. 1985) ("Lack of utility because of inoperativeness is a question of fact. ... The PTO ... bore the initial burden of showing prima facie that the claims sought to be patented were unpatentable."); *Gould v. Mossinghoff*, 229 USPQ 1, 13-14 (D.D.C. 1985), *aff'd in part, vacated in part, and remanded sub nom. Gould v. Quigg*, 822 F.2d 1074 (Fed. Cir. 1987) ("There is no requirement in 35 U.S.C. § 112 or anywhere else in the patent law that a specification convince persons skilled in the art that the assertions in the specification are correct. ... In examining a patent application, the P.T.O. is required to assume that the specification complies with the enablement provision of Section 112 unless it has 'acceptable evidence or reasoning' to suggest otherwise. ...The P.T.O. thus must provide reasons supported by the record as a whole why the specification is not enabling. ...Then and only then does the burden shift to the applicant to show that one of ordinary skill in the art could have practiced the claimed invention without undue experimentation."); *Ex parte Lemak*, 210 USPQ 306, 307 (PTO Bd. App. 1981) ("examiner has failed to carry his burden of substantiating the rejection for lack of enablement with reasons therefor.").

Ordinarily the determination of whether a specification provides an enabling disclosure for patent claims is a legal conclusion "based on underlying findings of fact." E.g., *Warner-Lambert Co. v. Teva Pharms. USA, Inc.*, 418 F.3d 1326, 1337 (Fed. Cir. 2005). The facts to be considered,

> commonly referred to as "the *Wands* factors, include "(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

*Id*. (citing *Wands*, 858 F.2d at 737).

**3.** Here, the office action does not contain any specific fact findings by the PTO to support its conclusion of non-enablement. Furthermore, the office action is not supported by an evidentiary record that would in turn support such specific fact findings even if they existed.

The office action just states (p. 7) that the *Wands* factors have all "been considered"; that the result of mental therapy is necessarily speculative because the "factors" (i.e., the parameters involved, such as amount or intensity of anger, fear, etc.) are "subjective in nature"; that the "subjective nature of the elements used" causes a "very low predictability of this invention"; and that the foregoing factors "far out-weigh all other *Wands* factors when considering the necessity for undue experimentation."

The conclusory statement in the office action that all other *Wands* factors have been considered and are "far out-weigh[ed]" is no substitute for making fact findings on each *Wands* factor and supporting them by substantial evidence of record. See *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002); *In re Gartside*, 203 F.3d 1305, 1314-15 (Fed. Cir. 2000). Moreover, such findings

and evidence (wholly absent here) must cooperate together to adequately explain the conclusion that undue experimentation is required to carry out the claimed invention. See *Gechter v. Davidson*, 116 F.3d 1454, 1460 & n.3 (Fed. Cir. 1997) (PTO must "set forth in its opinions specific findings of fact and conclusions of law adequate to form a basis for our review" and PTO determinations "must rest on fact findings, adequately explained, for each of the relevant…factors").

**4.** The office action states, "Applicant has not set forth any evidence or direction in the record that would lead one or ordinary skill in the art to be able to use the disclosed methods of and system for providing mental therapy and arrive at a specific, predictable result." As far as setting forth evidence goes, applicant respectfully points out that the burden is on the PTO, not on the applicant, to provide evidence unless and until the PTO makes out a prima facie case that shifts the burden. See *supra* point **2.** and accompanying note. As yet, there is no factual record here for the applicant to rebut and there are no fact findings to contradict. To the only extent that there is any record, it is provided by the specification and its evidence tilts strongly in favor of patentability of the claimed invention, in regard to the eight *Wands* factors:

- First, negligible experimentation is actually needed, as shown above. Further, the PTO has made no record, as it must, expressly containing substantial evidence "recounting the amount of experimentation one of skill in the art would require to develop" a system or method in accordance with the patent specification. *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1321 (Fed. Cir. 2003).
- Second, the Examples of the specification and surrounding text explain in very great detail how to practice the invention, thereby providing considerable direction and guidance

as to how to practice the invention.

- Third, the specification provides many working examples.
- Fourth, the office action states (p. 7) that the "nature of the invention" is "to provide mental therapy" and the office action then suggests, without any citation of textbooks or other evidence, that this ipso facto makes the invention speculative and unpredictable in result. This truncated analysis does not comply with the command of the Federal Circuit in *In re Gartside*, 203 F.3d 1305, 1313-14 (Fed. Cir. 2000) (PTO "opinion must explicate its factual conclusions, enabling us to verify readily whether those conclusions are indeed supported by 'substantial evidence' contained within the record"). The applicant respectfully traverses this assertion of speculativeness and unpredictability, and respectfully demands specific record support of the alleged speculativeness and unpredictability, so that he can submit affidavit evidence contradicting any specific assertions or otherwise show the insufficiency or lack of substantiality of such evidence.
- As to the fifth *Wands* factor, the office action does not even mention "the state of the prior art."
- As to the sixth factor, the office action does not even mention "the relative skill of those in the art."
- As to the seventh factor, "the predictability or unpredictability of the art," the office action merely asserts unpredictability without citing supporting evidence on the record and without relating the alleged unpredictability to how it requires undue experimentation. As stated above with regard to factor 4, the applicant respectfully demands specific record

evidence in support, so that he can submit affidavit evidence contradicting any specific assertions or otherwise show the insufficiency or lack of substantiality of such evidence.

- The office action does not mention the eighth *Wands* factor, "the breadth of the claims." The rejected claims are quite narrow. Independent claim 13, for example, is limited to therapy for a victim of spousal abuse who suffers from feelings of fear, powerlessness, vulnerability, or anger caused by such spousal abuse. The breadth of the claims to this invention is a far cry from, for example, the use of "electro-magnetism, however, developed for marking or printing intelligible characters, signs, or letters, at any distance." Cf. *O'Reilly v. Morse*, 15 How. 62.

In sum, the *Wands* factors either tilt in favor of patentability or are without record support in the instant record.[3]

Therefore, it is respectfully submitted that the instant specification adequately discloses how to practice the rejected claims of the invention without requiring undue experimentation, and substantial evidence to the contrary is absent from the record. The Examples alone fully teach a user what to do to practice the rejected claims of the invention. In this regard, therefore, the specification adequately enables the claimed invention and any rejection based on such lack of enablement should be withdrawn.

The foregoing discussion focused on method claim 13, but the same considerations apply with equal force to machine claim 16 and the dependent claims. The foregoing arguments are

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[3] The applicant is not obliged to prevail on all eight *Wands* factors. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1213 (Fed. Cir. 1991) ("it is not necessary that a court review all the *Wands* factors to find a disclosure enabling. They are illustrative, not mandatory.").

therefore incorporated herein by reference as to such claims.

**B. Inoperability under 35 U.S.C. § 112 ¶ 1**

The actual underlying objection in the office action appears not to be that the specification fails to describe in exhaustive detail (as it does) what a user is supposed to do in order to practice the rejected claims of the invention, but rather whether doing what the specification describes that the user should do will really have the intended therapeutic effect. The office action's implication is that either the therapy will not work at all or else it will not work all of the time in every case. This appears to be an inoperability rejection under 35 U.S.C. § 112 ¶ 1.

Thus, the office action states (p. 7) that the results of mental therapy are subjective and speculative, and therefore mental therapy does not provide a specific, predictable result. The applicant respectfully challenges that argument on several grounds, stated below.

**1.** The PTO has the burden to prove inoperability – that the invention will not work. Here, that means proving that carrying out the steps of, for example, rejected claim 13, as amended hereinabove, will not result in the abused spouse undergoing a "transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger." But under settled law the specification *must* be taken prima facie as enabling the results it claims. That presumption can be overcome only by substantial evidence of record, such as a recognized textbook saying that the claimed subject matter or result is (like perpetual motion) contrary to accepted science. In *In re Marzocchi,* 439 F.2d 220, 223 (CCPA 1971), the court held:

> [A] specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those

> used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. [Emphasis in original.]

In *In re Brana*, 51 F.3d 1560 (Fed. Cir. 1995), the Federal Circuit approvingly quoted this passage and held:

> From this it follows that the PTO has the initial burden of challenging a presumptively correct assertion of utility in the disclosure. Only after the PTO provides evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince such a person of the invention's asserted utility. [Citations omitted.]

*Id*. at 1566; see also *Fiers v. Revel*, 984 F.2d 1164, 1171-72 (Fed. Cir. 1993) (holding that PTO must take specification as prima facie enabling).

In the present case, the office action cites no textbook or other reference to support the idea that bringing about a cathartic reaction ("abreaction"[4]) does not tend to reduce feelings of fear, powerlessness, vulnerability, anger, and other negative feelings. Furthermore, the literature in the field from the time of Aristotle's *Poetics* through Freud to the present maintains that catharsis is therapeutic to purge negative feelings and emotions. Indeed, dictionary definitions of "catharsis," which are quoted in the specification of this application, stress that catharsis is "[a] technique used to relieve tension and anxiety by bringing repressed feelings and fears to consciousness." Users have known for centuries that for them to conduct simulated abuse of, or

[4] The American Heritage Dictionary, 4th ed. 2000, defines "abreact" as " To release (repressed emotions) by acting out, as in words, behavior, or the imagination, the situation causing the conflict." The American Heritage Stedman's Medical Dictionary defines "abreact" as " To release repressed emotions by acting out the situation causing the conflict, as in words, behavior, or the imagination."

simulated retaliation against, an effigy (e.g., sticking pins into it) that is intended to represent a person toward whom the user has resentful, hostile, or other negative feelings tends to relieve the user's feelings. See, e.g., the specification of Bettendorf U.S. Pat. No. 6,663,462 (2003), which the examiner listed on the PTO-1449 form dated June 27, 2005, that she filed in this case. Such simulated-abuse practices have been used in sympathetic magic and by shamans for centuries, if not millennia. They are so widespread in anthropological and other literature that official notice may be taken of them. See, e.g., D. Morse, et al., "Psychosomatically Induced Death: Relative to Stress, Hypnosis, Mind Control, and Voodoo: Review and Possible Mechanisms," Stress Medicine 7:213-32 (1991); J. Frazer, The Golden Bough (1922), ch. 3, § 2;[5] 2nd-3rd century Egyptian clay effigy with pins stuck into it, on display at Louvre Museum, Paris, France.[6]

For these reasons, it is respectfully submitted that the PTO has not sustained its burden of establishing a prima facie case of inoperability under *Marzocchi* and *Brana*. In *Brana* the Federal Circuit said, "The purpose of treating cancer with chemical compounds does not suggest an inherently unbelievable undertaking or involve implausible scientific principles." 51 F.3d at 1566. To paraphrase the Federal Circuit's statement in *Brana*, **The purpose of treating feelings of fear, powerlessness, vulnerability, or anger caused by spousal abuse with the catharsis therapy of this invention does not suggest an inherently unbelievable undertaking or involve implausible scientific principles.** In *Brana*, the Federal Circuit went on to add, *id*., "Accordingly, applicants should not have been required to substantiate their presumptively correct

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[5] Available on Internet at <URL: www.bartleby.com/196/6.html>.

[6] Image available on Internet at <URL: www.antinopolis.org/lovespell.html> and also at <URL: www.deleriumsrealm.com/delirium/images/article/pics/voodoo1.jpg>.

disclosure to avoid a rejection under the first paragraph of § 112." By the same token in the instant case, **the applicant should not be required to substantiate his presumptively correct disclosure to avoid a rejection under the first paragraph of § 112.** Accordingly, the present rejection should be withdrawn.

**2.** Even apart from the lack of factual evidence to support a prima facie case of inoperability, the rejection on the ground of the claimed therapy being "subjective" is not supported by the facts. The claimed therapy is not subjective.

The office action does not define the term "subjective" in the context of this invention. A dictionary definition of the term is found in the American Heritage Dictionary of the English Language, 4th ed. 2000, as follows:

> 4. *Psychology*. Existing only within the experiencer's mind.
> 5. *Medicine*. Of, relating to, or designating a symptom or condition perceived by the patient and not by the examiner.

Based on those definitions, the symptoms addressed here are not subjective. The specification specifically points out (¶ [0023]), in discussing the "determination unit," that there are

> a number of conventional electronic devices for determining reduction of stress by measuring a physiological parameter considered representative of stress, such as blood pressure, pulse rate, or palm-sweating. For example, blood pressure or pulse rate can be measured and monitored with many automatic measuring devices now on the market. The output of such a device is advantageously fed to processing unit 14….

Thus, the kind of symptom to which the invention is directed does not exist only in the mind of the patient, but is correlated with physical parameters capable of electronic measurement. On this basis, therefore, the subject matter of the claimed invention is not subjective. The rejection based on alleged subjectivity should therefore be withdrawn.

**3.** To the extent, if any, that the symptoms that the therapy alleviates may properly be termed "subjective," the claimed therapy method is not different from other therapeutic methods that are well recognized as patentable. Some symptoms are subjective, to be sure, in the different sense of the term that, although physically measurable parameters are correlated with their presence and intensity, nonetheless a third person observer does not feel them. Thus, I may measure your stress (for example, by reading your pulse rate) but I do not actually feel it. The feelings of feelings of fear, powerlessness, vulnerability, or anger to which claim 13 refers are, *in that particular sense*, subjective. Anxiety and headache also are, in the very same sense, subjective. A therapist, however empathetic, does not experience a patient's feelings, since by definition one can experience only one's own feelings. (I cannot feel your toothache.)

Nevertheless, the PTO quick search database shows 1971 patents with the word "anxiety" in the claims.[7] That symptoms are subjective (in this sense), therefore, is not an obstacle to the PTO's patenting (nearly 2000 times) a treatment for them. The subject matter of claim 13 is thus

[7] Representative claims, starting with the first several listed patents are as follows: Jan. 10, 2006, Gutman RE38,934 ("28. A method of treating a mammal in need of treatment for a condition selected from the group consisting of convulsions, seizures, muscle stiffness, and anxiety, comprising administering to the mammal an effective amount of a pharmaceutical agent comprising N-methoxymethyl-5,5-diphenylbarbituric acid."); Jan. 3, 2006, Xie USP 6,982,268 (20. A packaged pharmaceutical preparation comprising the pharmaceutical composition of claim 18 in a container and instructions for using the composition to treat a patient suffering from anxiety, depression, a sleep disorder, attention deficit disorder, or Alzheimer's dementia."); Dec. 27, 2005, Scanlan USP 6,979,750 ("The method of claim 9, wherein the disease state is bipolar disorder, depression, schizophrenia, eating disorders, anxiety, seizure, epilepsy, insomnia and sleeping disorders, gastroesophageal reflux disease, diseases involving gastrointestinal motility or asthma."); Dec. 27, 2005, Beatch USP 6,979,685 ("14. A method for treating depression, anxiety or schizophrenia, in a warm-blooded animal comprising administering to a warm-blooded animal in need thereof a therapeutically effective amount of a composition according to claim 2."). Many of these disease states are subjective in the second sense of the term and yet the subject matter is clearly patentable, statutory subject matter.

on a par with such well-recognized-as-patentable therapeutic methods as alleviating headache or pain by administration of aspirin or ibuprofen, alleviating anxiety by administration of anti-anxiety drugs, and alleviating depression by administration of an anti-depressant. Moreover, the results of giving a patient aspirin to relieve a headache are subjective and speculative, in the same sense of the term: Does or doesn't the patient say that her head hurts less? (The same is true of giving a patient an anti-anxiety drug or anti-depressant.) Empirical tests cannot produce any more non-subjective precision than that. The rejection based on alleged subjectivity should therefore be withdrawn.

**4.** It also appears to be a basis stated for this rejection that the examiner believes that the therapy of the invention does not always work. That assumption is not a fact finding supported by record evidence, and under *Brana* it is not the applicant's burden to adduce evidence on this point. Rather, it is the PTO's burden,[8] a burden that has not been met here. On that ground alone, the rejection should be withdrawn.

Moreover, such a fact, even if it were true, would be immaterial. The results of any therapy will not have a 100% success record. For example, the results of such well-recognized-as-patentable therapeutic methods as alleviating headache or other pain by administration of aspirin or ibuprofen, alleviating anxiety by administration of anti-anxiety drugs, and alleviating depres-

[8] The examiner has made no record-based findings that support a conclusion that the claimed therapy method never or rarely works. The examiner does not point to any textbook that states that the law of conservation of energy or other recognized scientific principles make the claimed therapeutic method an equivalent of perpetual motion, of drawing electrical energy "out of the ether," or the like. There no citation of scientific literature that says that causing catharsis will not work to reduce fear, anger, and negative feelings. Indeed, any literature says that catharsis does reduce such feelings.

sion by administration of an anti-depressant do not yield a 100% success rate. Therapy does not need to work all the time to pass muster under 35 U.S.C. § 112 ¶ 1.[9] No case-law is cited to support the proposition that approximately 100% success is required – and must be proved by the applicant – for patenting a therapeutic method. It is simply not a legal requirement under 35 U.S.C. § 112 ¶ 1 (even apart from the issue of the burden of proof being on the PTO here).

The Federal Circuit has recognized these principles: "To violate [35 U.S.C.] § 101 the claimed device must be *totally incapable* of achieving a useful result." *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571 (Fed. Cir. 1992) (emphasis added). Furthermore, in *E.I. du Pont De Nemours & Co. v. Berkley & Co.*, 620 F.2d 1247, 1260 n.17 (8th Cir. 1980) (Markey, J.), the court held (emphasis supplied):

> A small degree of utility is sufficient…. The claimed invention must only be capable of performing *some* beneficial function…. An invention does not lack utility merely because the particular embodiment disclosed in the patent *lacks perfection* or performs crudely…A commercially successful product is not required…. *Nor is it essential* that the invention …*operate under all conditions*…*partial success being sufficient* to demonstrate patentable utility… In short, the defense of non-utility cannot be sustained without proof of total incapacity.

Therefore, even if record support existed (it does not) for the assumption that the instant therapy does not always work, such a fact would not support the § 112 ¶ 1 rejection. The record here would need to show, as it cannot, what Judge Markey called "proof of total incapacity."

**5.** The foregoing discussion has been directed primarily to the rejected method

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[9] Indeed, some pneumonia patients do not get better as a result of being given penicillin, and anti-cancer drugs do not cure all patients. But the patent statute does not require 100% success. Thus the Federal Circuit said that "[e]nablement does not require an inventor to meet lofty standards for success" in *CFMT, Inc. v. Yieldup International Corp.*, 349 F.3d 1338, 1340 (Fed. Cir. 2003).

claims (Nos. 13-14). However, the same arguments apply to the machine claims (Nos. 16-19). In addition, it should be noted that the independent machine claim (No. 16) has been amended in the last clause thereof, so that it now recites that the machine components are adapted to cooperate together to *influence* a reduction of fear, anger, etc. rather than that the components *provide* such a reduction when actuated.

**Indefiniteness - 35 U.S.C. § 112 ¶ 2**

Claims 1-14 and 16-19 stand rejected under 35 U.S.C. § 112 ¶ 2 because the examiner states that "or perceived by" is not "exactly clear." Specifically, the office action (p. 8) states:

> It is not clear exactly what Applicant means to claim by "or perceived by." Does Applicant mean perceive as 1) to become aware of directly through any of the senses or perceive as 2) to achieve understanding of or apprehend? Applicant already recites "visibly displayed", so does Applicant mean to encompass any of the other senses. *Appropriate distinction is required.* (Emphasis added.)

As the applicant understands the examiner's statement, the examiner requires the applicant to elect, on the intrinsic record, whether "or perceived by" in the cited claims is intended mean "1) to become aware of directly through any of the senses or [else]… 2) to achieve understanding of or apprehend." (If applicant has not understood the examiner's statement or requirement properly, applicant requests that the examiner clarify her statement and specify what she desired.) The applicant would elect meaning 1) – "to become aware of directly through any of the senses" – except that it is not clear whether the proposed or stated definition extends to visual memory, which the inventor considers to be within the scope of "perceived" as used here.

In this connection, the applicant notes that the cited phrase typically occurs in the claims in a context such as "causing to be visibly displayed to, *or perceived by*, a first person an image

…." That is, the patient is caused to have visibly displayed to her, or is caused to perceive, an image ("a likeness or representation of a person, animal or thing," see ¶ [0070]). Ordinarily, this is a computer image resulting from a graphics file such as a jpeg, which the user looks at on a computer display. However, other ways to perceive an image exist. For example, a therapist can direct a abused spouse patient to visualize her abusive spouse *in her mind's eye*, based on the inherent human ability to imagine or remember scenes[10]; the therapist could then direct the patient to similarly visualize a club and then visualize it moving against the head of the abusive spouse just as it did in step 3 of claim 1 or claim 13, when the invention is performed in accordance with one of the Examples of this specification; the therapist might also direct the patient to perform this exercise when suffering feelings of fear or powerlessness when apart from the therapist or without access to the invention via a computer and computer display. These usages of "perceive" are each believed conventional and well recognized by ordinary users of the English language, so that the rejection or objection has been overcome by pointing out the definition of the term "perceived" and limiting it to its conventional usage, as shown in dictionaries as cited.

**CLAIM REJECTIONS - 35 U.S.C. § 101**

Claims 1-14 and 16-19 – all the claims left in the case following the restriction requirement – stand rejected under 35 U.S.C. 101 because the claimed invention is directed to nonstatutory subject matter. (Claims 15 and 20 were made subject to a restriction and have therefore been cancelled without prejudice.)

The instant office action rejected all claims in the case under § 101 as nonstatutory sub-

[10] "The inherent mental ability to imagine or remember scenes." Definition of "mind's eye" in The American Heritage Dictionary of the English Language (4th ed. 2000).

ject matter on several grounds. The rejection (p. 9) is set out below with inserted bracketed numbers to indicate the different grounds, as the applicant understand them, in order to permit this Amendment to address each ground in turn:

> [1] It is not evident that the claimed invention transforms an article or physical object (i.e., the first person in the claimed invention) to a different state or thing. [2] For example, if during the step of "determining whether said fear, anger, or negative thoughts or feelings of said first person have been reduce[d], and if not, returning to step 2", the first person's sentiments never change, then the first person is never transformed to a different state.
>
> [3] Moreover, it is not evident that the claimed invention provides a practical application that produces a useful, tangible and concrete result. The claimed invention cannot be useful if the first person's sentiments are never reduced. [4] Moreover, there is no evidence that the claimed processes for providing mental therapy produce a result that is repeatable (e.g., causing said first person to undergo a transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger or providing a reduction of said fear, anger, or negative thoughts or feelings, or a reduction of or at least a partial discharge of said negative cathexis).

## A. Transformation test

Point [1] in the above-quoted passage suggests that a transformation of an article or physical object to a different state or thing is required for all categories of statutory subject matter in all circumstances. That is not correct under the case law.

### 1. *Physical* transformation is not required

The office action assumes that the transformation that gives a process sufficient concreteness to be statutory subject matter under § 101 must be a *physical* transformation of an article or substance. However, *In re Schrader*, 22 F.3d 290 (Fed. Cir. 1994), expressly holds that the transformation specified is "the transformation or conversion of *subject matter* representative of or constituting physical activity or objects." *Schrader* pointed out that in other Federal Circuit deci-

sions, transformations of electrical signals representative of physical things were sufficient for § 101 purposes. 22 F.3d at 295. In *Arrhythmia*,[11] it was electrocardiograph signals representative of human cardiac activity; in *Abele*,[12] it was X-ray attenuation data representative of CAT scan images of physical objects; and in *Taner*,[13] it was seismic reflection signals representative of discontinuities below the earth's surface. See also *In re Warmerdam*, 33 F.3d 1354, 1360 n.5 (Fed. Cir. 1994) ("In *Schrader*, we determined that the phrase 'subject matter' is not limited to tangible articles or objects, but includes intangible subject matter, such as data or signals, representative of or constituting physical activity or objects.") While the Federal Circuit has since gone even further, and has allowed other kinds of data manipulation to be statutory subject matter, see *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), the court has not receded from or overruled what *Schrader* said was permitted. That decision makes it clear that any required transformation is one of *subject matter*, and that it need not be of a physical article. The subject matter transformed can be something not a physical article – for example, X-ray attenuation data representative of CAT scan images or electrocardiograph signals representative of a patient's heart condition.

**2. No transformation requirement applies to apparatus claims or to process claims containing apparatus limitations**

Furthermore, the transformation requirement, to the extent that there is one, applies only

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[11] *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992).

[12] *In re Abele*, 684 F.2d 902 (CCPA. 1982),

[13] *In re Taner*, 681 F.2d 787 (CCPA 1982).

to processes that are not limited to a particular apparatus and it does not apply either to processes with apparatus limitations or, particularly important here, to product claims such as claims to a machine, system, or apparatus. Thus, in *Gottschalk v. Benson*, 409 U.S. 63 (1972), which first spoke of the transformation test as the clue to patentability, made it clear that the issue arose only in regard to process claims not having apparatus limitations in them. The Supreme Court said, "Transformation and reduction of an article 'to a different state or thing' is the clue to the *patentability of a process claim that does not include particular machines*." *Id*. at 70. Furthermore, in *Warmerdam*, 33 F.3d at 1360, the Federal Circuit held that the claim, in terms, "is for a machine, and [therefore] is clearly patentable subject matter." Accordingly, no rejection on grounds of lack of transformation can be sustained here for any of the method claims that have apparatus limitations in them or for any claims to apparatus as such.

**3. Tabulation and analysis of claims in terms of machine limitations and transformations of state**

The rejected claims fall into the following categories pertinent to this rejection:

| Claim | Category |
|---|---|
| 1 | "A method of providing mental therapy for reducing fear, anger, or negative thoughts or feelings…" (no apparatus limitation; no transformation *expressly* recited) |
| 2 | "The method of claim 1…wherein said method further comprises *transforming said first state of mind* of said first person *to a second state of mind* of said first person, said *second state characterized by thought patterns constituting or representative of a reduction of said fear*, anger, or negative thoughts or feelings." |
| 3 | "The method of claim 1…wherein said method further comprises *transforming said first state of mind* of said first person to a second state of mind of said first person, said second state characterized by an at least partial discharge of said cathexis." |

| | |
|---|---|
| 4 | "The method of claim 3 wherein said method further comprises *transforming said first state of mind* so that…' (dependent claim) |
| 5 | "The method of claim 1 wherein at least one step is *carried out by a machine*." |
| 6 | "The method of claim 5 wherein said image of a second person and said image of an object are each located on a *computer display* visible to said first person, said *computer display operatively coupled to a programmable processing unit operatively coupled to a memory*…" |
| 7-11 | These claims are dependent from claim 6 and contain further machine or other limitations |
| 12 | "The method of claim 1 wherein at least one step of said method is preceded, accompanied, or followed by an audible rendition of a predetermined phrase…" (dependent from claim 1) |
| 13 | "A method for providing mental therapy for a victim of spousal abuse, said method comprising the steps of: …wherein…a *transformation of mental state*, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger." |
| 14 | "The method of claim 13 wherein…" (dependent claim) |
| 16 | "A *machine* adapted for use in a therapy for alleviating anger…, said machine comprising: …a person *display unit*…; an object *display unit*…; a *translator unit*… |
| 17 | "The *machine* of claim 16 further comprising a determination unit…" (dependent claim) |
| 18 | "The *machine* of claim 16 further comprising a *processing unit operatively coupled to a memory* in which is stored a computer program…" (dependent claim) |
| 19 | "The *machine* of claim 18 further comprising a *sound system operatively coupled to said processing unit* and…" (dependent claim) |

This Amendment now addresses the specific claims, as tabulated above.

*a. Machine claims*

Claims 16-19 are expressly directed to machines as such. For example, dependent claims 18-19 recite additional apparatus that is clearly of a conventional machine nature – in claim 18, a processor coupled to a memory storing a computer program, and in claim 19 a sound system coupled to a processor. Each of these machine claims is statutory subject matter that is not subject to the transformation requirement, based on the decision in *Warmerdam*, 33 F.3d at 1360. The reason is that the given claims expressly recite a machine as an element, and a machine is ipso facto statutory subject matter under § 101. In *Warmerdam*, claim 5 was directed to a "machine [of unspecified nature – but presumably a computer]…having a memory which contains data representing" the results of carrying out the same nonstatutory method that the court had considered unpatentable in earlier parts of the opinion. The court explained that claim 5, in terms, "is for a machine, and is clearly patentable subject matter." See also *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en *banc*); *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992) (Rader, J., concurring: "The apparatus is a machine and is covered by the *Iwahashi* rule."). Therefore, the rejection of machine claims 16-19 on grounds of no transformation is incorrect, cannot be supported, and should be withdrawn.[14]

*b. Method claims with apparatus limitations*

Method claim 6, and therefore claims 7-11 dependent from it, have a claimed apparatus limitation – a "*computer display* operatively coupled to a *programmable processing unit* opera-

[14] In addition, the machine claims do effectuate a transformation for the same reasons as stated below as to claim 1. But it is unnecessary to reach that issue here, because machine claims are not required to cause transformations.

tively coupled to a *memory*…" Such a claim is not subject to the transformation requirement, because the apparatus limitations automatically provide tangibility and concreteness to the process claimed. The Supreme Court made that clear in the *Benson* opinion, where it excused from any transformation requirement those process claims limited to the process when practiced with a given apparatus. The issue of whether a transformation was present arose only as to process claims *not* limited to an apparatus, like Morse's eighth claim which, unlike his other claims, was not limited to the use of Morse's special machinery (the repeater circuit). Similarly, the *Benson* court noted that Bell's telephone method claim (*The Telephone Cases*, 126 U.S. 1) was adequately limited in scope because it required use of his variable-resistance or inductance-magneto transducers, so that his claimed monopoly over the method "was not one for all telephonic use of electricity." The *Benson* Court held that cases upholding method claims without apparatus limitations, such as *Cochrane v. Deener*, 94 U.S. 780 (1877), were based on the fact that they claimed a transformation from one "state or thing" to another. See 94 U.S. at 787-88.

Instant claim 5 is also patentable under this exclusion from the transformation requirement, because it reads, "The method of claim 1 wherein at least one step is carried out by a machine." See *Benson*, 409 U.S. at 70 ("clue" passage).

*c. Claims reciting transformations of state*

Claims 2-4 and 13-14 raise different issues. These method claims do not recite apparatus limitations, but they expressly recite limitations directed to a transformation of state. In *Benson*, the Supreme Court said, "Transformation and reduction of an article '*to a different state* or thing'

is the clue to the patentability of a process claim that does not include particular machines."[15] In *Schrader*, the Federal Circuit refined this test by stating that the transformation could be of an article or subject matter that was not physical in itself.

In claims 2-4, various transformations occur from one state of mind to another state of mind. In claim 2, the transformation is from a user's "first state of mind characterized by thought patterns constituting or representative of fear, anger, or negative thoughts or feelings" and the transformation is to a "second state of mind…characterized by thought patterns constituting or representative of a reduction of said fear, anger, or negative thoughts or feelings." In claim 3, the user's first state of mind is characterized by a specific negative cathexis and in the second state of mind there has been an at least partial discharge of that cathexis. In claim 4, dependent from claim 3, an additional transformation occurs that is of the same type as that of claim 3.

In claims 13-14, directed to a victim of spousal abuse, what occurs is "a transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger" that resulted from the spousal abuse.

The original specification discusses this type of transformation:

> **[0065]** Despite the disputes over how catharsis works, it is considered that in the context of this invention, the thought patterns of the user that constitute or are representative of anger, anxiety, fear, hostility, or other negative thoughts or feelings are transformed to user thought patterns that constitute or are representative of less anger, anxiety, fear, hostility, or other negative thoughts or feelings. Such thought patterns may be embodied electrically, biochemically, or otherwise in a manner not fully explainable in the present state of scientific knowledge. It is widely accepted that memories and other thought patterns are embodied in electric and chemical signals that circulate or are transmitted from place to place within

[15] The same "state or thing" language is used earlier in *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1877).

> the human brain. Indeed, a considerable body of information exists on how different forms of mental activity can be imaged on electronic brain scan displays, and how changes in such activity upon occurrence of certain stimuli or mental activities can be viewed on such brain scan displays. See, e.g., M.S. George et al., "Advances in Brain Imaging: An Overview of What the Primary Psychiatrist Needs to Know," [[available on line at http://www.musc.edu/psychiatry/fnrd/primer_overview.htm.]] It is thus considered that the operation of the invention causes one set of such signals within the brain to be transformed into a different set of such signals, where the first set is representative of one physical state (characterized, for example, by fear or anger based on memories of prior experiences) and the second set is representative of a different physical state (characterized, for example, by a reduction in such fear or anger).

The specification describes several different transformations that are pertinent here. First, it says that "the thought patterns of the user that constitute or are representative of anger, anxiety, fear, hostility, or other negative thoughts or feelings are *transformed* to user thought patterns that constitute or are representative of less anger, anxiety, fear, hostility, or other negative thoughts or feelings." Then, the specification states: "Such thought patterns may be embodied electrically, biochemically, or otherwise in a manner not fully explainable in the present state of scientific knowledge. It is widely accepted that memories and other thought patterns are embodied in electric and chemical signals that circulate or are transmitted from place to place within the human brain." (Citations omitted.) The specification then states that "the operation of the invention causes one set of such signals within the brain to be transformed into a different set of such signals, where the first set is representative of one physical state (characterized, for example, by fear or anger based on memories of prior experiences) and the second set is representative of a different physical state (characterized, for example, by a reduction in such fear or anger)."

This part of the specification amply describes a transformation of state and a transformation of one kind of electrical or biochemical signal (representative of one state of mind) to a dif-

ferent kind of such signal (representative of another state of mind). Thus, the transformations occurring here are of the same kind as those held patentable in such cases as *Arrhythmia* (electrocardiogram signals representative of tendency to fibrillate). Therefore, to the extent that § 101 has any transformation requirement, these claims are sufficiently directed to causing such a transformation for them to pass muster. Indeed, they expressly mention the transformation.

*d. Claims describing, but not expressly reciting, a transformation*

Claims 1 and 12 (dependent from claim 1) do not explicitly recite a transformation. According to the passage in the specification quoted above, however, such a transformation occurs when the method claimed in claim 1 is carried out, even though that claim does not expressly recite it. Applicant submits that this is sufficient. In *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1877), where patentability was based on the fact that the process effectuated a transformation from one "state or thing" to another, the patentee did not explicitly recite that his process operated on the subject matter so that it was "transformed and reduced to a different state or thing." *Id*. at 788. That was how the Court *characterized what the process did*, not how it was *claimed*. Similarly, in cases such as *Arrhythmia*, the patentees did not explicitly recite a transformation although that was what occurred. It is therefore submitted that claim 1 is patentable under § 101 because its claimed process *effectuates a transformation*, even though it does not explicitly recite that fact. (Claim 12 depends from claim 1 and thus embodies its limitations. Also, new claim 21, dependent from claim 1 and discussed below, is in the same category as claim 12.)

* * *

Accordingly, no claim rejection herein based on a transformation requirement can be sus-

tained, because each claim recites or otherwise involves a transformation of state or else the claim is within the machine-related exclusion from any transformation requirement.

**4. The patent law does not require a transformation, anyway**

In the *Benson* case, the Supreme Court expressly refrained from holding that a transformation was absolutely required for patentability, even for claims without machine limitations. It said:

> It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a "different state or thing." *We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents*.

Subsequent Federal Circuit decisions have expanded the limits of patentability far beyond the *Benson* paradigm. In the *State Street* case, the Federal Circuit limited the exclusion from statutory subject matter to "merely abstract ideas constituting disembodied concepts or truths that are not 'useful'" and that could nor "be applied in a 'useful' way." 149 F.3d at 1373. In that case, the claimed data processing system for implementing a financial management structure (a tax dodge) satisfied the § 101 inquiry because it constituted a "practical application" that "produce[d] 'a useful, concrete and tangible result.'" *Id.* (quoting *In re Alappat*, 33 F. 3d 1526, 1544 (Fed. Cir. 1994)). In *Alappat*, the Federal Circuit held that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display in place of a jagged display. See 33 F.3d at 1557. In *State Street*, the court reviewed its *Arrythmia* decision and explained that it satisfied the "useful, concrete, and tangible" test because the invention "constituted a practical application of an abstract idea…because it corresponded to a useful,

concrete *or* [*sic*] tangible thing—the condition of a patient's heart." 149 F.3d at 1373. (Here the invention addresses a state or condition of the patient's mind or brain – such as memories causing fear and anxiety – no different in kind that the state or condition of a patient's heart.) In *State Street* the court then went on to hold patentable under § 101 a computer system configured to calculate "a final share price momentarily fixed for recording and reporting purposes" that could be used to satisfy IRS regulations on income tax. *Id*. Then, in *AT&T Corp. v. Excel Communications Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), the court expressly stated that transformation is not an invariable requirement. It said, "The notion of 'physical transformation' can be misunderstood. In the first place, it is not an invariable requirement." *Id*. at 1358. The court went on to hold that the claim passed muster under § 101 because it "as a whole, produces a tangible, useful result," *id*. at 1361, which was to enable the telephone company to determine which of two rates (subscriber-to-subscriber call rate or otherwise) to charge a customer for a call. See *id*. at 1353.

Therefore, it would not be a sufficient ground for a § 101 rejection here that the claimed subject matter does not effectuate a transformation, even if that were the fact. (It is not the fact, however, for the reasons stated above.) To be unpatentable, a would-be patentee must claim a monopoly of an abstract idea, law of nature, or natural phenomenon. That is not the case here, because the claims are directed to alleviating fear, anger, anxiety, and similar feelings that result from victimization or mistreatment, and to accomplishing that result by going through specific actions of simulated retaliation against the abuser. That is far from a mere abstract idea.

**B. Useful, concrete, and tangible result - § 101**

The office action states that "if during the step of 'determining whether said fear, anger,

or negative thoughts or feelings of said first person have been reduce[d], and if not, returning to step 2', the first person's sentiments never change, then the first person is never transformed to a different state." It is suggested that this possibility keeps the invention from providing a practical application with a useful. tangible, and concrete result.

Preliminarily, it is noted that the independent claims have been amended hereinabove, so that the terminology quoted in point [2] has been changed. Claim 1's fourth step now reads: "(4) making a determination whether to repeat the third step, said determination comprising determining, based at least in part on user-derived input, whether, or to what extent, a reduction of said fear, anger, or negative thoughts or feelings of said first person has occurred." Claim 13's fourth step has been deleted and the following language was added at the end: "wherein, during or after said third step, said first person undergoes a transformation of mental state, said transformation comprising a reduction of said feelings of fear, powerlessness, vulnerability, or anger." Claim 16's last clause has been deleted and the following clause substituted for it: "said person display unit, said object display unit, and said translator unit adapted to cooperate to influence a reduction of said fear, anger, or negative thoughts or feelings, or an at least partial discharge of said negative cathexis."

**1. The "determining" step is not present in all rejected claims**

The basis of this rejection is that there is a "determining" step in the claim, which calls for a feedback to an earlier step if an alleviation of symptoms does not occur. But not all the claims have a determining step. Some method claims do not have a "determining" step. The

determining step is step (4) of original claim 1,[16] and therefore provided a limitation on that claim and the claims dependent from claim 1 (Nos. 2-12). Claims 13-14, however, do not have this "determining" step. Some claims are directed to a machine and do not have any step of any kind recited therein, much less a "determining" step. Independent machine claim 16 has no such step or apparatus corresponding to it. The same is true of dependent claims 18-19. Further, machine claim 17 has a determination unit, for initiating reiterations if appropriate, but no such step or action is in terms required to be performed. Therefore, this supposed ground of rejection necessarily cannot apply to many of the claims to which the instant part of the office action applies such ground (it can apply only to claims 1-12). It is respectfully suggested that the rejection must be withdrawn in regard to those claims (13-14, 16-19) without any determining step, leaving this ground of rejection to be considered only in regard to claims 1-12..

**2. The rejection is not supported by record evidence**

The office action cites no factual basis for its premise that "if…the first person's sentiments never change, then the first person is never transformed to a different state." It is respectfully submitted that Federal Circuit law makes it the PTO's burden to establish the factual premise that sometimes "the first person's sentiments never change." E.g., *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002) ("During patent examination the PTO bears the initial burden of presenting a prima facie case of unpatentability. If the PTO fails to meet this burden, then the applicant is entitled to the patent.") (citations omitted); *In re Oetiker*, 977 F.2d 1443 (Fed. Cir.

[16] That claim has been amended to change the language of the fourth step to: "(4) making a determination whether to repeat the foregoing third step, said determination comprising determining, based at least in part on user-derived input, whether, or to what extent, a specified reduction of said fear, anger, or negative thoughts or feelings of said first person has occurred."

1992). If there is not substantial evidence of record on an issue, the issue must be resolved in favor of patentability. Here, no record evidence (much less substantial evidence) supports a fact finding to the effect that the first person's sentiments never change.

On this record, therefore, no basis exists for the speculative and unrealistic assumption that a victim of spousal abuse, for example (or another person having fear or other negative feelings caused by a prior adverse interpersonal interaction), will fail to feel less afraid, vulnerable, or powerless after engaging in a simulated head-bashing of, or other simulated retaliation against, her abuser, for example, pursuant to step (3) of claim 1. Accordingly, this ground of rejection cannot be supported and should be withdrawn.

**3. The possibility that some persons' sentiments will be unchanged does not make the claimed subject matter unpatentable under § 101**

Even if record evidence showed that some persons' sentiments never change, as the office action speculates, that would not make the subject matter of claim 1 unpatentable. (Claim 1 and claims 2-12 dependent from it are the only previously presented claims having the "determining" language that the office action refers to. New claim 21, discussed below also depends from claim 1.)

First, it should be noted that the language of claim 1 has been amended hereinabove to simplify and clarify it. Step (4) previously read: "(4) determining whether said fear, anger, or negative thoughts or feelings of said first person have been reduced and, if not, returning to step 2." The office action said of this step, "if during the step of 'determining whether said fear, anger, or negative thoughts or feelings of said first person have been reduce[d], and if not, returning to step 2', the first person's sentiments never change, then the first person is never transformed to

a different state." This step now reads, "(4) making a determination whether to repeat the foregoing third step, said determination comprising determining, based at least in part on user-derived input, whether, or to what extent, a specified reduction of said fear, anger, or negative thoughts or feelings of said first person has occurred." Amended claim 1 stops at this determination and does not recite what further action, if any, must be taken after the determination or on the basis thereof.[17] Therefore, the problem that the rejection envisioned does not now arise as to claims 1-12, as amended, since the language quoted from claim 1 is no longer in the claim. Applicant respectfully notes in this connection that an applicant is not obliged to claim every possible additional step surrounding the claimed steps, and therefore amended claim 1 need not and does not do so. See *Carl Zeiss Stiftung v. Renishaw PLC*, 945 F.2d 1173, 1181 n.5 (Fed. Cir. 1991) (permissible to claim only sub-combination); see also *Special Equipment Co. v. Coe*, 324 U.S. 370 (1945) (same); *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1347 (Fed. Cir. 2000) (Newman, J., concurring) ("[A] claim may cover an invention embracing the entire process, machine, manufacture, or composition of matter which is described in the specification, or it may cover such sub-processes or such sub-combinations of the invention as are new, useful and patentable.") (quoting 3 *Lipscomb's Walker on Patents* 290-91 (1985)).

Furthermore, it is common for process claims to end with a determining or ascertaining or evaluating step, without any subsequent statement of what to do after making the determination, and the Federal Circuit finds no difficulty with such claims. See, e.g., *Brown v. Barbacid*, — F.3d —, 2006 WL 240553 (Fed. Cir. Feb. 2, 2006) (last step of claim is "determining the ability

[17] New claims 21 and 22 address what can happen after the determination. There are discussed hereinafter.

of the…enzyme…to transfer a farnesyl moiety"). It is therefore proper to end claim 1 with the determining step. That leaves open for the user various, further, unrecited steps that a user can perform, as the specification indicates. See, e.g., Example 3 (¶ [0055]), Example 4 (¶ [0057]), Example 5 (¶ [0058]), and Example 6 (¶ [0061]).

Thus, amended claim 1 is directed to a single iteration of the recited steps. It is believed that the amendment obviates the analysis in the office action based on "if the person's sentiments do not change," because the claim no longer positively recites the "if so, do such and such" feed-back step, and simply recites a straight-line series of steps that ends with the determination step.

If the examiner's statement about the person's sentiments possibly never changing is meant to raise an operability issue, that too does not bar patentability. The possibility of the desired result (e.g., reduction of fear) not occurring for some reason does not make the process unpatentable.[18] Therapies do not need to work always for all patients. See previous discussion of utility and operability responding to rejection under § 112 ¶ 1, which is incorporated herein by reference. Thus, it is common with therapeutic method claims to call for continuing to apply the medication until the adverse symptom is reduced – for example, take two aspirins every four hours until headache goes away. The possibility that the headache will *not* go away (for any number of possible reasons – say, a head injury or a tumor) does not make such a claim non-

[18] For example, in *Abbott Laboratories v. Novopharm Ltd.*, 323 F.3d 1324 (Fed. Cir. 2003), the Federal Circuit had no problem with the following claim: "10. A method for improving the bioavailability of fenofibrate in vivo, which comprises co-micronization of the fenofibrate and a solid surfactant, the said co-micronization being carried out by micronization of a fenofibrate/solid surfactant mixture until the particle size of the powder obtained is less than 15 μ." Like the original claims objected to here, this claim describes a process in which you do something "until" a desired result occurs – reduction of particle size to below 15 μ, which in theory or principle may never happen.

statutory subject matter under § 101. Not all arthritis victims benefit from a given medication, and doctors have to try out different anti-inflammatory medications on their patients to see which one, if any, will work for the patient.[19] Similarly, not all hypertension victims benefit from a given anti-hypertensive medication,[20] and not all depressed patients benefit from a given anti-depressant medication.[21] Doctors therefore have to try out different anti-hypertensive and anti-

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[19] See, e.g., Altera Answer Series, "An Overview of Arthritis," Article dated May 31, 2002 ("Finding the right treatment takes time and may involve trial and error until you and your doctor find what works best."), available online at www.assisted.com/answerseries/note011.htm; The National Council on Aging, "Arthritis – Understanding It" ("Different treatments work best for different people, and finding the right treatment can take time, as well as a certain amount of trial and error."), available online at www.ncoa.org/content.cfm?sectionID=109&detail=117.

[20] See, e.g., Medical News Today, "Hypertension, genes, and bad outcomes," Article dated Nov. 22, 2005 ("There are five first-line drug classes, with probably an average of seven to eight drugs in each class, then an additional half-dozen or so other drug classes that aren't considered first-line….This means there are many choices for drug therapy in hypertension – a good thing – but also adds to the trial-and-error element of finding the right drug for the right person, as any specific drug has only about a 50 percent chance of being effective in a specific patient."), available online at www.medicalnewstoday.com/medicalnews.php?newsid=33901; Doctor's Guide, "Trial And Error Helps Patients Find Best Blood Pressure Treatment," Article dated June 11, 1999 ("Patients with high blood pressure may be able to find the drug that is best for them if they try out several different drugs before settling on one treatment, according to study in this week's issue of *The Lancet*. Researchers have long known that people react differently to the blood pressure medications. While one drug may bring one person's blood pressure under control, it may have little or no effect on another. As a result, finding the right drug for patients is often a process of trial and error."), available online at www.pslgroup.com/dg/106b42.htm.

[21] See, e.g., CBS News Healthwatch, "Depression: Drug v. Talk Therapy," Article dated Sept. 8, 2004 ("More than 50 percent of survey respondents who took antidepressants tried two or more drugs; 10 percent tried five or more. "It really does have to be a process of trial and error …because there's no predicting people's response to [antidepressants]"), available online at www.cbsnews.com/stories/2004/09/08/health/webmd/main641883.shtml; Best Doctors, Donald F. Klein, "Diagnosis and Treatment of Depression," Article rev. Sep. 21, 2003 ("We often don't know which medication works the best for any given patient. Some trial and error, even in the hands of the most skilled psychiatrist, is required. On average, about 60-70 percent of patients benefit from the first medication tried, and of those who do not improve, about 50-60 percent will benefit from the next medication. Unfortunately, this means that even after two medications,

depressant medications on their patients to see which one, if any, will work for the patient. The possibility of non-success does not negate patentability, and a § 101 rejection on that basis therefore cannot be sustained.[22]

**4. The invention provides a useful, concrete, and/or tangible result**

As documented in the Background section of the specification, anxiety and fear cause stress and stress causes adverse physiological results (e.g., hypertension, increased likelihood of heart disease). The invention is directed at reduction of feelings such as anxiety and fear, and by the same token at reduction of the accompanying physiological effects. That is a useful result.

The invention is tangible and concrete, in the sense that it is not abstract or philosophical (i.e., abstract ideas, natural phenomena, and laws of nature, as contrasted with a particular application of an abstract idea, natural phenomenon, or law of nature). Rather than being abstract, the invention is directed at a result in the real world of human reactions to perceived victimization and abusive treatment from other persons. The invention is directed to a "practical method or means of producing a beneficial result or effect." See *Corning v. Burden*, 56 U.S. (15 How.)

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somewhere between 10-20 percent will still be ill."), available online at www.bestdoctors.com/en/conditions/d/depression/depression_051900.htm; The Cleveland Clinic, George Tesar, Depression and Other Mood Disorders, pub. May 29, 2002 ("There is no test available that predicts individual response to antidepressant medication in general or to any single agent. Empiric trial-and-error is necessary with a 60% to 70% chance of success with any one agent. If a trial of the first agent is unsuccessful, the diagnosis should be reviewed for accuracy and then, if depression is still present, another antidepressant should be tried."), available online at www.clevelandclinicmeded.com/diseasemanagement/psychiatry/depression/depression.htm.

[22] *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571 (Fed. Cir. 1992) (test is whether invention is "totally incapable of achieving a useful result:); *E.I. du Pont De Nemours & Co. v. Berkley & Co.*, 620 F.2d 1247, 1260 n.17 (8th Cir. 1980). See also MPEP § 2107.01 ("If an invention is only partially successful in achieving a useful result, a rejection of the claimed invention as a whole based on a 'lack of utility' is not appropriate.").

252, 268 (1854).

It is also tangible in the sense that physiologically measurable parameters exist that correlate with the operation of the invention. These parameters include pulse rate, blood pressure, and sweat production. Further, it is accepted that observable brain functions are correlated with mental activities that can be viewed on brain-scan displays. See, e.g., M.S. George et al., "Advances in Brain Imaging: An Overview of What the Primary Psychiatrist Needs to Know," *supra*. Being afraid or anxious, or alleviation thereof, are not things too intangible to be the subject matter of a patent. Thus the invention addresses tangible subject matter.

**5. "Concrete" does not mean "uniformly successful"; it means not abstract**

The term "concrete" has erroneously been treated by the PTO as meaning "repeatable and predictable," see *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility* (hereinafter referred to as the "Guidelines"), available online on Internet at uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf, at p. 22, and the instant office action appears to extrapolate from that to conclude that the instant claims may be rejected on the theory that non-uniform or uncertain success of therapeutic methods justifies a rejection on grounds of lack of concreteness. In equating "concrete" with "repeatable and predictable" in the Guidelines, the PTO has sought to rely on *In re Swartz*, 232 F.3d 862, 864 (Fed. Cir. 2000), where the court held that an alleged "cold fusion" process, like perpetual motion, was inherently implausible. That justified the PTO in considering Swarz' claimed invention prima facie inoperable and lacking utility. But the examiner there, unlike here, created a record with acceptable references suggesting inoperability of the invention. The court said that the

applicant's experimental evidence was irreproducible but did *not* hold that reproducibility was a *sine qua non* of patentability. Moreover, the court said *nothing* about concreteness. Thus, the court said, "Here the PTO provided several references showing that results in the area of cold fusion were irreproducible. The PTO provided substantial evidence that those skilled in the art would 'reasonably doubt' the asserted utility and operability of cold fusion." Therefore, it was reasonable in that case for the Board to conclude that the examiner had established such doubt as to operability, based on the cited references that debunked claims of cold fusion. That created a prima facie case on inoperability of cold fusion and thus shifted the burden to the applicant. Moreover, the applicant's rebuttal evidence was deemed inadequate for sound reasons. But the instant case does not involve an inherently implausible perpetual-motion or cold-fusion type of invention, and no references as to inoperability and irreproducibility are of record here.

The *Swartz* case does not identify reproducibility with concreteness. Nor does *Alappat* or *State Street* do so. Only the Guidelines do so, and they are not substantive law.[23] *Swartz* is also the only precedent cited for irreproducibility as a requirement for utility or operability. The *Swartz* ruling is at best an alternative holding and appears to be obiter dictum. What *Swartz* really holds is that irreproducibility *is a factor that can be taken into account* in measuring the weight of evidence offered to support claimed useful effects, especially when they are implausible because contrary to received wisdom. The irreproducibility of Swartz' data cast doubt on whether his data showed that cold fusion ever occurred even once, or whether instead his data just represented applicant's experimental errors or other mistakes.

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[23] The Guidelines state (p. 2): "These Guidelines do not constitute substantive rulemaking and hence do not have the force and effect of law."

The case that does talk about concreteness is *Alappat* and it says nothing about concreteness being related to reproducibility or about irreproducibility leading to unpatentability. The *Alappat* decision says that Alappat's invention was concrete, rather than an abstract idea, because it produced the "concrete result" of a smooth waveform on an oscilloscope screen. That has nothing to do with reproducibility. The instant invention is not an abstract idea either, because it aims at producing the concrete effect of a user of this invention becoming less afraid of a person who previously abused her, and by the same token becoming less stressed and having lower pulse rate, lower blood pressure, etc., with related physiological effects.

*State Street* also speaks of concreteness – it holds that an accounting system for a complicated tax scheme is concrete. Again, the court's decision does not equate concreteness to reproducibility. Instead, the *State Street* court (like the *Alappat* court) uses *concreteness* as an antonym of *abstract idea*, which is at the opposite pole from being useful in a practical, worldly sense. In sum, the irreproducibility issue in *Swartz* has nothing to do with the statutory subject matter issue of *Alappat* and *State Street*. *Swartz* is not a precedent about statutory subject matter. It is about operability.

Thus, being concrete is merely not being an abstract idea. The instant invention is clearly not an abstract idea. The *State Street* opinion said of the invention in the *Arrhythmia* case that it was concrete because it concerned "the condition of a patient's heart." *State Street*, 149 F.3d at 1373. The instant invention is equally concrete, because it concerns the condition of a patient's brain and related physiological factors (pulse rate, etc.). This invention is concrete under the

principle stated in *State Street*.[24]

To the extent, if any, that the Guidelines try to make *Swartz* and irreproducibility a part of the statutory subject matter analysis under § 101, that is just a misstatement of the law. *Swartz* and irreproducibility fit into a § 101 analysis only on the very different issue of operability. Operability is a part of the § 101 analysis only because that section has a utility requirement as well as and separately from a statutory subject matter requirement. The operability-utility requirement under § 101 is equivalent to the operability-utility requirement under 35 U.S.C. § 112 ¶ 1, however, which has been discussed previously in connection with the rejection under § 112 ¶ 1. An inoperable invention is not useful. For the reasons given previously in the discussion of the rejection under § 112 ¶ 1, therefore, this record will not support in inoperability rejection. *In re Brana, supra*. The previous discussion of inoperability is incorporated herein by reference.

Furthermore, it is clear that what is meant by "irreproducibility" in the *Swartz* case does not mean that a therapy must be 100% successful. Hardly any therapy is 100% successful. As previously stated, taking aspirin does not always cure all headaches – but a claim to a therapeutic method of using aspirin for curing headaches would not on that ground be inoperable or lacking in utility. If *Swartz* were interpreted as authority that therapeutic inventions must be 100% successful, therapeutic patenting would come to an end. All that *Swartz* means is that any apparent successes of cold-fusion experiments were flukes or experimental errors, and they could not be repeated. The problem with Swartz' cold-fusion invention was not that it fell short of working

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[24] The American Heritage Dictionary of the English Language (4th ed. 2000) defines "concrete" as follows: "1. Of or relating to an actual, specific thing or instance; particular: *had the concrete evidence needed to convict*. 2. Existing in reality or in real experience; perceptible by the senses; real: *concrete objects such as trees*."

100% of the time; it did not work at all, and the scanty evidence that it did work was faulty or fake and therefore could not be reproduced when subjected to rigorous scrutiny.

The instant § 101 rejection should therefore be withdrawn.

**THE NEW CLAIMS**

There are two new dependent claims (21-22) in place of the two independent claims cancelled because of the restriction requirement. These claims depend from independent claim 1, as amended, which is patentable for the reasons stated above in the discussion of that claim. Accordingly, claims 21 and 22 simply add further limitations to claim 1. Claims 21 and 22 each add a new step 5, concerning further iterations of step 3 and the following steps, based on the determination made in step 4.

As amended, independent method claim 1 contemplates a first person (a "user" or "victim") who has an initial level of fear, anger, or negative thoughts or feelings because of abuse by, or other adverse interactions with, a second person (an "abuser"). As previously set out in the original claim 1, steps 1 to 3 involve user selection of images and a simulated retaliation of the user-victim against the abuser, in a juxtaposition of images in which the abuser appears to be harmed by the user's actions. The method of amended claim 1 ends with a "determining" step 4, in which it is determined whether to engage in a reiteration of the simulated retaliation. The determination is based at least in part on user-derived input information, for example, a change in the user's pulse rate or blood pressure (see, e.g., specification, ¶¶ [0023], [0058]) or a YES/NO user input (see ¶ [0057] ) as to whether the initial level of fear, anger, etc. has been reduced.

**1.** In claim 21, the simulated retaliation is reiterated until a specified reduction below

the initial level has occurred. The specified reduction may be qualitative (dependent, for example, on the YES/NO answer in ¶ [0057] ) or quantitative (for example, based on a 5% reduction in pulse rate or blood pressure). When this occurs, the "do until" loop ends and performance of the method is stopped. See Examples 3, 4, 5, and 6 (specification, ¶¶ [0055], [0057], [0058], and [0061]), which describe such a procedure; also, ¶¶ [0021], [0023], and [0058] suggest 5% reduction of blood pressure or pulse rate as a possible rule of thumb.

It is understood that the instant office action previously speculated that the "do until" loop may never end and no transformation will occur "if during the step of 'determining whether said fear, anger, or negative thoughts or feelings of said first person have been reduce[d], and if not, returning to step 2', the first person's sentiments never change...." That would not be a proper basis for rejection of new claims 21 and 22. As previously stated, there is no record support for the quoted surmise. Moreover, the patent law does not require that for aspirin therapy for headaches to be patentable aspirin must succeed in curing every headache of every person with a headache.[25] Furthermore, the Federal Circuit permits claims to contain a "do until" loop that in theory may never be satisfied. See *Abbott Laboratories v. Novopharm Ltd*., 323 F.3d 1324 (Fed.

[25] This would raise again the situations noted previously as to arthritis drugs, anti-hypertensives, and anti-depressants, where a given drug does not work for a given patient. E.g., Medical News Today, *supra* ("any specific drug has only about a 50 percent chance of being effective in a specific patient"); Doctor's Guide, *supra* ("While one drug may bring one person's blood pressure under control, it may have little or no effect on another."); Donald F. Klein, *supra* ("about 60-70 percent of patients benefit from the first medication tried, and of those who do not improve, about 50-60 percent will benefit from the next medication. Unfortunately, this means that even after two medications, somewhere between 10-20 percent will still be ill"). As stated previously, aspirin doesn't cure every headache in every person who has a headache, but that doesn't make a method of alleviating headaches by administering aspirin unpatentable. *E.I. du Pont De Nemours & Co. v. Berkley & Co*., *supra.*

Cir. 2003) ("10. A method for improving…bioavailability…which comprises co-micronization… being carried out by micronization of a…mixture until the particle size of the powder obtained is less than 15 μ."). The arguments previously made as to the rejection on the ground of the above-quoted statement of the office action are incorporated herein by reference.

**2.** In claim 22, the concept of a "current level" of fear, anger, etc. is introduced to supplement the previously introduced "initial level" of fear, anger, etc. The current level is the level existing at the time of the current iteration of the fourth step. The claim calls for reiterating the third and following steps until a time comes when the current level has not been reduced by a specified amount below the immediately preceding current level.[26]

For example, the user's initial pulse rate could notionally be 80 beats per minute, which is representative of a particular level of stress or fear, anger, etc., while the notional specified reduction could be 4 beats per minute. The method would be reiterated until a reduction of less than 4 occurs in a (last) iteration. For example, the successive pulse readings could be 80, 75, 70, 68, whereupon the process would be terminated.

**3.** New claims 21 and 22 are therefore allowable. Not only do they depend from an allowable claim, but they are themselves intrinsically allowable.

* * *

[26] The language describing the additional step is: "(5) returning to the third step and repeating the third and following steps until a time comes when it is determined that the current level of fear, anger, or negative thoughts or feelings of said first person at said time is not such that a specified reduction of the current level of fear, anger, or negative thoughts or feelings of said first person when the fourth step was last previously iterated has occurred."

The applicant notes that the Guidelines (p. 16) state:

> If the invention as set forth in the written description is statutory, but the claims define subject matter that is not, the deficiency can be corrected by an appropriate amendment of the claims. *In such a case, USPTO personnel should* reject the claims drawn to nonstatutory subject matter under 35 U.S.C. § 101, but *identify the features of the invention that would render the claimed subject matter statutory if recited in the claim.*

In this case, the examiner has not identified any such features or suggested any claim amendment. The applicant therefore respectfully requests that, if the examiner believes this passage in the Guidelines to be relevant here, an identification should be made of record of features of the invention that should or might appropriately be recited in the claims, in accordance with the second sentence of the above quoted part of the Guidelines.

Additional references were cited by the Examiner but not utilized in the rejection of the claims and accordingly, no further comment on these references is necessary.

No other issues remaining, reconsideration and favorable action upon all of the claims now present in the application is respectfully requested. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's undersigned attorney.

No fee is incurred by this Amendment.

Respectfully submitted,

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